Taking Ex nihilo seriously : ontology and providence in creation

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Abstract

Taking *Ex Nihilo* Seriously: Ontology and Providence in Creation

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In this thesis I argue against the notion that God's creation of the world was the actualizing of a possible world. This kind of model of creation is found in much philosophical theology. It seems to me, however, that it does not do justice to the Christian doctrine of creatio ex nihilo.

I argue that a different philosophical model is to be preferred, one which I think more precisely accommodates the insights offered by the idea that God created from nothing. This model was proposed by C. S. Peirce and developed by Charles Hartshorne. It concerns the notion that there is nothing that is determinate in possibility. That is, possibility contains no things or individuals. I develop this idea and defend it from various objections as well as pointing out its benefits.

One of the consequences of the acceptance of the Peirce/Hartshorne model is that God can no longer be pictured as perusing possible worlds as a kind of prelude to creation. I look at the implications of this idea and take seriously the notion that God could not know exactly what He was making as He created the world.

I argue that amongst the benefits of an acceptance that possibility contains no individuals is that the world can be seen as a genuinely new thing, not something that has always existed as a mental component of God's mind. God, in creating the world, created something different from Himself, something genuinely other that He could love.

Furthermore, since God's creation is the making of the entirely new, God can be seen to be creating meaning as well as matter.

Declaration:

I confirm that no part of the material offered has previously been submitted by me for a degree at this or any other university. In all cases material from the work of others has been acknowledged and quotations and paraphrases suitably indicated.

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INTRODUCTION

In this thesis, I examine the metaphysical and moral aspects of the doctrine of *creatio ex nihilo*. I believe a mistaken and flawed model of this doctrine has taken hold of recent philosophical theology.[1] According to the recent view, the world has, in some sense, always existed. Instead of the doctrine of *creatio ex nihilo* correctly attesting to the radical newness of God's creation and His creative self-sufficiency, it has been taken merely to say that there was no pre-existent matter or material out of which God made the world. I have no wish to deny that this is part of the doctrine's claim, but I think the claim should go further than this. I would say that the nothing out of which the world was made was really nothing - there was no possible world that was actualized by God. There was no possible Adam that God used as His model for making the real Adam. Similarly there was no possible Eve that served as His standard and so on for everything that was created. The possible worlds model as we shall see is the picture that Leibniz had of the metaphysics of creation from nothing; it is a picture that predominates in discussion of the metaphysical hows and whys of God's creation of the world.

The idea of the possible worlds picture of creation is powerful and compelling - the basic notion is that prior to creation God had before Him various possibilities. He had the idea of an Adam and an Eve and a garden called Eden. He saw that this collocation of possibles was compossible, i.e., could exist together without logical contradiction. He saw that such a possible world would be good and so actualized it. Of course, it is supposed that other possibilities were present in the divine conception - there was an Adam that was two inches taller than the Adam that was made actual. There was a garden that was a little bit bigger than the actual garden and one that was a little bit smaller. There was an Eve that would be more wary of serpents and less easily persuaded. Indeed, it seems possible that there is a possible world still steeped in Edenic bliss. For some reason, God chose this world to be the actual one. According to Leibniz, God's reason for choosing this world out of the plethora of possible worlds is because it is the best possible one. We look at Leibniz's theory in more detail in chapter one.

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[1] Plantinga 1974a is a particularly good example.

For now the crucial thing to note is that the possible worlds model of divine creativity treats possibility as a determinate thing. Basically there is no loss or gain of determinateness when something passes from being merely a possible to a *bona fide* actual. I argue that this is a mistaken conception of possibility. As we shall see, possibility is indeterminate. There are not any non-actual, but nevertheless determinate possible items such as possible Adams and Eves even in the divine conception. Possibility is not to be envisaged as a kind of cosmic waiting room in which possibilities 'look forward' to their entry onto the stage of actuality. Such a model denigrates the self-sufficiency of God since it seems to imply that God needs models or standards in order to complete His creation of the world. God, in other words, looks or scrutinizes various possible worlds and, on the basis of that scrutiny, decides what to actualize. The possible worlds model, also seems to me, to detract from the miracle of creation. Surely the creation of a world whose origin is nothing but God is a more miraculous and marvellous thing than the creation of a determinate world from a determinate possibility. If the move from possibility to actuality is merely the appearance of something which has merely been hidden in some way, it is hard to see the grandeur and majesty of the creative act.

It is then the main burden of this thesis to get away from the possible worlds notion towards a model more in keeping with the ontological parsimony suggested by the very title of the doctrine of *creatio ex nihilo*.

In order to be as thorough and clear as possible, the thesis is divided into three parts. In the first part, we are mainly concerned with the *ontology* of creation. In the second part, we look at what theories of *providence* are implied by the various ontological models discussed in the first part. In the third part of the thesis, we look more broadly at the notion of *creativity* itself and in particular at what understanding we should have of God's creativity if we adopt a model of creation that moves towards a conception of non-determinate possibility. So the broad pattern of the following thesis moves from ontology towards its implication for our understandings of God's providence and then finally looks at the notion of creativity.

The first part is the longest and in keeping with its ontological concerns contains the most philosophy. It is the longest section since the alternative conception of possibility I explore is difficult to understand and consequently needs quite a lot of explaining and contextualising. Its origins are in the metaphysics of possibility forwarded by C. S. Peirce and developed and elaborated by Charles Hartshorne. It is, on first sight, less intuitively plausible than the Leibnizean contention. Despite its difficulty I attempt to defend it and show that it is really a better way of understanding the nature of possibility.

The second part is more theological in nature since it deals with the idea of God's providence. The adoption of a Peircean model of possibility has far-reaching consequences for the kind of model of providence we must adopt. Instead of a model of providence where God sees all possibilities and decides beforehand how He shall deal with them, we must go towards a model of providence where God reacts to the unforeseen surprises and novelty that creation has to offer. The indeterminate nature of possibility implies a world where chance, spontaneity and irreducible novelty can exist. It is to this kind of world that any theory of providence must apply.

The final part of the thesis looks at the effect that the adoption of the Peircean model has on the idea of creativity itself. God's creativity is a much more marvellous and mysterious activity than previous models allow. God creates not just material stuff (i.e., a world) out of nothing, but also we shall see that He is able to create *meaning* out of nothing as well. Thus, again, we will see how novelty and spontaneity are irreducible items in our universe.

Part One

The Ontology of Creatio ex Nihilo

Chapter One

Leibniz's Ontology of the Possible

In this opening chapter we examine Leibniz's views on the nature of possibility. We will concentrate on Leibniz because he has had probably the most influence on contemporary accounts of possibility. Indeed, when writers begin to write about 'possible worlds' they are talking in an idiom that Leibniz himself invented. Leibniz represents, therefore, a particular way of understanding possibility and, since it is an understanding we are ultimately going to reject, we need to study it closely first. As we shall see, Leibniz holds that possibility is determinate - to my mind, a very implausible thing to believe about the merely possible.

The ancestry of Leibniz's contention lies in Plato's philosophy, especially that given in the *Timaeus*. In this dialogue, Plato makes his fullest commentary on the creation of the world. The powerful picture that is painted there sees the world as a copy of pre-existent forms. Plato writes,

> We must, then, in my judgement, first make this distinction: what is that which is always real and has no becoming, and what is that which is always becoming and is never real? That which is apprehensible by thought with a rational account is the thing that is always unchangeably real; whereas that which is the object of belief together with unreasoning sensation is the thing that becomes and passes away, but never has real being. Again, all that becomes must needs become by some agency of some cause; for without a cause nothing can come to be. Now whenever the maker of anything looks to that which is always unchanging and uses a model of that description in fashioning the form and quality of his work, all that he thus accomplishes must be good. If he looks to something that has come to be and uses a generated model, it will not be good. [Plato 27D-28B Cornford's translation 1937 p22].

Plato makes his famous distinction between the world of forms and the physical world. The forms are eternal and unchanging; thus they are 'real and have no becoming'. This world is modelled on these forms and thus, in as far as the world is a faithful copy of the real, it is both good and intelligible. We must go beneath the surface 'sensation' which can only give us belief (rather than knowledge) to the intelligible forms upon which the world is based.

Leibniz in part rejects and in part accepts this notion of the roots of possibility. He accepts the idea that God needs models or standards in order to effect a rational, creative act. This is the idea of God looking towards possible things in order to decide what to create. But Leibniz, following a well trodden theological path initiated by Augustine, rejects the platonic notion that possibilities are *external* to God.[1] Possibilities do not inhere in some platonic type realm to which God has access but which is essentially external to Him. Rather that which is possible is contained *in* God and only has reality in relation to Him. Thus Leibniz says in the *Monadology* ,

> It is true also that in God lies not only the source of the existences, but also that of essences, insofar as they are real, or whatever is real in possibility. This is because God's understanding is the realm of eternal ideas or of the [possible essences <or>] ideas on which they depend. And without him there would be nothing real in possibilities, and not only nothing existent but even nothing possible. [*Monadology* Section 43, trans N Rescher].

Leibniz is claiming that not only existing things ('existences') are ontologically dependent for their reality on God, but also possible things or possibilia. This must be clarified, however. For Leibniz, what actually exists is decided by God. He wills what He wants to actually exist. In that sense what actually exists is ontologically dependent on the *will* of God. In the case of possible things, however, there is a crucial difference. What is possible is not decided by God; it is not subject to His will. Possible things are, however, still ontologically dependent upon God since they depend for their existence on His *understanding*. As we can see in the quotation above: "without him there would be nothing real in possibilities, and not only nothing existent but even nothing possible." By rejecting the notion that possibility is subject to the divine will, Leibniz is rejecting Descartes' understanding of the relationship between the divine will and possibility. Descartes seems to have believed in what is sometimes called Universal Possibilism [Plantinga 1980]; namely, the doctrine that logical laws are decided by the will of God.[2] This is the belief that what is possible is decided by God.[3] This is what

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[1] Coplestone 1993 p60 quotes from Augustine's *De Ideis*: 'The ideas are certain archetypal forms or stable and immutable essences of things, which have not themselves been formed but, existing eternally and without change, are contained in the divine intelligence.' (Plato does not talk about a personal God in the Christian sense of the term in the *Timeaus* but about the *Demiurge* - a 'craftsman' who works against recalcitrant matter. There is some dispute about how seriously Plato meant the idea of the *Demiurge* to be taken. See Melling1987 p153-154.)

[2] See, for example, Descartes' letters to Mersenne: 6th May 1630, 27th May 1630.

Leibniz denies. That which is possible is possible independently of the divine will, but relies for its being - 'in so far as it is real' - on the essence of God. Leibniz explicitly rejects the Universal Possibilism of Descartes:

> However, we must not imagine, as some do, that the eternal truths, being dependent on God, are arbitrary and depend upon his will as Descartes seems to have held...That is true only of contingent truths, whose principle is fitness or choice of the best. Instead, the necessary truths depend solely on God's understanding, and are its eternal object. [*Monadology* Section 46, trans N Rescher].

So what does this amount to? Possibilia have no independent existence from God - they have no ontological reality except in relation to God's mind or understanding, but what is possible is not similarly dependent on His will. God does not decide what is going to be possible; he merely perceives it to be possible. This follows from the will-independent status of the logical laws. The logical laws circumscribe the area of the absolutely possible. In other words, to put it metaphorically, they 'decide' what is possible, but the ontological status of the laws themselves is dependent on God - as quoted above, "without him there would be nothing real in possibilities".

Nicholas Rescher calls Leibniz's position Conceptualistic Realism [Rescher 1973 p180]. This name reflects the ambivalent nature of this account of possibilia: they are real (because they are contained in the eternal unchanging mind of God) and purely mind-dependent (because without God's mind there is no reality in them whatsoever).[4]

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[3] There is a considerable amount of debate as to exactly what Descartes' position amounts to here. There is a good discussion of this in van den Brink 1993 p 95-115.

[4] This apparently paradoxical collocation of 'conceptual' with 'realism' does justice to the two sides of Leibniz's metaphysics. As is often commented upon, Leibniz is a nominalist - his ontology allows only concrete particulars, not abstract objects or relations [see Mates 1986 chapt 10 and Rutherford 1995 115-119]. But Leibniz wants nevertheless to say that when an abstraction such as humanity is predicated of Socrates there is some basis in reality for the truth of this assertion. David Rutherford in *Leibniz and the Rational Order of Nature* claims that it is God's perfect understanding of the concept of Socrates that preserves an objective ground of the truth of the proposition, 'Socrates has humanity'. So Leibniz is a nominalist in that he rejects a real abstraction 'humanity' which inheres in the subject 'Socrates', but the truth (or reality) of the proposition is assured because God's perfect understanding sees that the concept 'Socrates' involves the concept 'humanity'. Rescher's term "Conceptualistic realism" seems apt.

Actual and Possible Things

Having reached this point, it is time to turn to the difference between actual and possible things in Leibniz's thought. Two influential commentators make roughly the same point about Leibniz's attitude towards actual and possible things. Hide Ishiguro says this of Leibniz's attitude towards possibilia,

> [Leibniz seems to take the view that]...only individuals in this world can be logically treated as individuals and have corresponding individual concepts, and that of 'Pegasus' and 'Zeus' express only a general concept. Then 'Zeus is strong' will be a true essential proposition.
> As Leibniz says, it is the nature of individual substances (that is to say, individuals in the actual world) to have complete individual concepts - corresponding to the particular 'haecceitas' (thisness) of the individual. We cannot, however, get at the 'haecceitas' of things which exist in other possible worlds. For example, if we think of Pegasus as the winged horse on which Bellerophon rode, there are indefinitely many ways of filling in the details of its other properties, each corresponding to a creature in a different possible world. Thus 'Pegasus' does not name an individual in one possible world. [1972 p134-135.]

Similarly Ian Hacking writes,

> Leibniz permits talk of possible saints peter.[5] There cannot be a name for one definite possible, but not actual saint. No one can ever point to a nonactual saint, so the name cannot be introduced by ostensive definition. Nor can a picture or description introduce the name, for every finite definite description will omit differentia - the lengths of the various hairs on the beard, and so forth. I can signify the complete individual notion of the actual St. Peter because I have a name that latches on to Peter. But I cannot signify the notion of a merely possible saint. [1982 p189]

What do these observations on Leibniz's philosophy amount to? Basically Ishiguro and Hacking claim that Leibniz believes that for possibilia only general descriptions can be given. These descriptions are always incomplete in that they fail to specify properties that the complete concept of an actual individual would possess. For any actual object the following principle will be true of it:

For any property F: If 'Fx' is false, then '[-F]x" is true.

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[5] The lower case is used here deliberately by Hacking to show he is not talking about the real Saint Peter, but some other possible saint peter.

That is to say, for any actual object it is either true or not true that a particular property is attributable to it. But Ishiguro and Hacking claim this is not true of possibilia in Leibniz's metaphysics - some predicates will be unspecified in the concept of a possible thing. As a matter of fact, this is an incorrect interpretation of Leibniz. As we shall see, Leibniz believes that God can specify the complete predicates for any possible subject. However, for now, we must leave that point and pick it up later in this chapter.

Leibniz calls this indeterminateness of possibilia, to conceive of a possible *sub ratione generalitatis*. When, for example, we talk of the possible adams that could have been instead of the actual one, we form a general description that fails to specify all predicates. It is, in other words, not a complete individual (possible) substance, but only a general concept (I use a lower case 'a' in adam to indicate that this does not name the actual Adam, but stands for a general concept. Hacking uses a similar device). Thus I might think of another adam who is an inch shorter than the real Adam, but leave out of consideration whether or not his hair is combed. This other adam is a possible whose existence guarantees the contingency of the actual Adam - if Adam were the only one, he would be necessary in some way. So the device of conceiving of other adams *possible sub ratione generalitatis* is used by Leibniz to preserve contingency. In conceiving of these possible adams, Leibniz claims that in order for them to be concepts close enough to the real Adam to be genuine alternatives, there must be some minimum defining property or properties. For example, in conceiving of alternatives to Adam I must at least preserve some of his characteristics or else they are not alternatives-to-Adam, but something completely unrelated. These characteristics can be called his essential properties. So it might be an essential property of Adam that he satisfies the definite description 'the first man'. But the adams we conceive of as alternatives to Adam need not be completely determinate beyond whatever we conceive to be his minimum defining essence. Of course, there might be genuine difficulties in specifying those properties that constitute defining, necessary characteristics of the real Adam, but the point remains that in order to talk of alternatives to Adam, there must be some properties preserved in order for us to have genuine Adam-alternatives and not something else. So we cannot arbitrarily say, for example, that another possible adam is a stone for this fails to have properties essentially constitutive of the real Adam.

Leibniz talks about this at length in his letters to Arnauld:

...in speaking of several Adams I do not take Adam for a determined individual but for a certain person conceived *sub ratione generalitatis* under the circumstances which appear to us to determine Adam as an individual but which do not actually determine him sufficiently. As if we should name by Adam the first man, whom God set in a garden of pleasure whence he went out because of sin, and from whose side God fashioned a woman. All this would not sufficiently determine him and there might have been several Adams separately possible or several individuals to whom all that would apply. [Letter to Arnauld 14th July 1686, trans G Montgomery]

As already mentioned, Leibniz uses this distinction between properties an individual must possess and those properties which it need not, when conceived *sub ratione generalitatis*, in order to preserve contingency. Arnauld, however, complains that the following hypothetical is necessary, 'If God resolves to create me he could not avoid creating a nature capable of thought.' If this kind of hypothetical is true of every property I possess, then my nature seems to flow out of my concept as a metaphysical necessity. But, as Leibniz points out, the particular example Arnauld gives is one which *is* metaphysically necessary because there is no alternative-to-Arnauld which fails to be a nature capable of thought. But other properties depend, for example, on the laws of motion which govern the particular possible world in which another arnauld might exist. Presumably, the real Arnauld is incapable of flight in this world, but there are other possible arnaulds who have this ability because they reside in worlds in which physical laws are different. There are, however, no possible worlds in which any arnauld fails to be capable of thought.[6]

Thus there are alternatives-to-Arnauld, but these are not identified with Arnauld because as alternatives they fail to have predicates satisfied by the real one. They are general and vague and not completely determinate like the real Arnauld. Some

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[6] Leibniz's acceptance of a distinction between essential and accidental properties may appear to conflict with his superessentialism - the doctrine that all attributes are essential to the identity of an individual. However, there is in actual fact no contradiction. For Leibniz, essential properties are those properties that are possessed by an individual at all times that that individual exists, while accidental properties are those that can be lost or gained by an individual at different times. Thus being a man is essential to Alexander, while being a king is not. Now Leibniz's superessentialism says that although the possession of kingship is not an attribute possessed by Alexander at all times, he must nevertheless possess that attribute at the time that he does - else it will not be Alexander, but some other individual [see Mates 1986 p.138-144].

properties of Arnauld are necessary or essential, some contingent (in the sense that we can conceive of arnaulds that fail to have these properties).

This idea of alternatives to X being possible because there are general x's which are incomplete is a point made by Adams in his essay, 'Theories of Contingency'. It is the idea that the contingency of X is ensured by the existence of possible x's which, when considered on their own, do not contain any internal contradictions. x is possible, as Adams puts it, in its own nature [1982 p246-248]. It seems that God, according to the principle of the best, must choose Eve rather than any eve because Eve is the possible who is compossible with those other elements that comprise the best possible world. So does it follow that this world was necessary as soon as God had resolved to create - that, in actual fact, no other world was possible instead of the World? No, insists Leibniz, it does not follow that no other eve was possible. Considered in itself the notion of, say, an eve who is a centimetre taller than Eve is certainly not a contradiction. Leibniz insists we must defend the contingency of the actual world:

> If we wish to reject absolutely the pure possibles, contingencies will be destroyed, because if nothing is possible except what God has actually created then what God has actually created would be necessary in case he resolved to create anything. [Letter to Arnauld, 14th July 1686, trans G Montgomery]

Other possibles are possible because considered in themselves there is no contradiction - the notion of eve is not like the notion of a round square which does contain a contradiction within itself and is therefore, impossible in its own nature.

Let us look back at the two quotations from Ishiguro and Hacking which started this section and try to apply them in the light of what we have considered. Adam, they claim, names an individual substance, but adam does not - it stands for a range of possibles, a range of general concepts. The horse pegasus does not name an individual - it stands for a range of general concepts with, perhaps, 'winged horse' being one of the essential characteristics.

Now there is one very important (indeed, for the purposes of this thesis, crucial) proviso which we have to apply to Ishiguro's and Hacking's observations. It concerns God and His relation to possibilia. Leibniz says that God *can* form a complete concept of an x considered purely as a possible. (In other words, it is an X (upper case).) God does not

have to wait until He creates Adam in order to have a completely determinate individual; He can conceive of Adam *sub ratione possibilitatis*, but non-generally, with a completely specifying list of predicates. "... my supposition" explains Leibniz, "is not merely that God wished to create an Adam whose concept was vague and incomplete but that God wished to create a particular Adam sufficiently determined as an individual." [Letter to Arnauld, July 14th 1686, trans G Montgomery]. More explicitly we also have,

> Now there can be no ground for doubting that God can form such a concept [of a possible Adam] or, rather, that he finds it already formed in the region of possibilities, that is to say, in his understanding. [Ibid]

and finally,

> ...we cannot deny that there is truly a certain concept of Adam accompanied by all its predicates and conceived of as possible, which God knew before resolving to create him. [Ibid]

What Leibniz is saying here is that God can 'name' Adam before actualizing him. That is to say, God can completely individuate Adam and pick him out from a range of possible adams. God does not have to wait until actualization before a determinate individual exists *sub ratione possibilitatis*. This is something that Ishiguro and Hacking seem to forget. Of course, no finite mind can specify all the predicates which would determine the complete concept of some possible individual and, so humanly speaking, there are no possible individuals to which names can be given; instead only incomplete definite descriptions can be applied which form general and vague concepts. But, says Leibniz, God can specify and pick out the predicates which form the concept of an individual and so God can, as it were, pick out Adam before actualization. That this should be the case in Leibniz's eyes should not surprise us. In a passage quoted by R.S. Woolhouse, Leibniz says, "God is incapable of being indeterminate in anything whatsoever." [1982 p48. See also Mates 1986 p66-68]. If it were the case that God could not pick out the complete notion of an individual just as a possible, then He would in actualizing be doing something whose characteristic were unspecified: some aspects of that individual would be surprising and novel to God.

Possibility, in this sense then, is determinate. When God decides to make me, He does not pick out a vague, shadowy, possible individual. Rather God understands perfectly all those predicates which are true of me at various times of my life.[7] God is capable of picking out the complete specification of an individual even in the realm of possibility. This is what I mean when I say that, under the possible worlds account, there is no gain or diminution of determinateness when X passes from being a merely possible to being a *bona fide* actual individual.

Hacking's and Ishigouro's mistake is that they have read Leibniz's idea of conceiving of alternatives *possible sub ratione generalitatis* as Leibniz's wholesale commitment to the rejection that *complete* possible specifications are present in the divine conception. But Leibniz has to say that the alternatives-to-Adam are incomplete, since, if he were to say that they are complete it would not be an Adam-alternative that he was referring to but another individual completely. - alternatives must be *a*dam, otherwise they would be other individual notions.[8] There is only one Adam, accompanied by a range of incomplete alternatives whose presence preserves contingency. But that does not mean that pegasus needs to be *p*egasus. God can conceive of the full specification of a winged horse, who is a member of a maximal possible world. He can see Pegasus in all its determinate glory. There are plenty of complete possible notions in the divine conception. Leibniz's problem is that he cannot call these complete notions alternatives to the Adam that existed since they are other individual notions with their own identities.

What exactly is it then for God to create something, for God to pick out X as a possible and then actualize it? What difference, in other words, does creation - that is the actualization of possibilia - make? Let us look at some answers that Leibniz might give

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[7] Here we have another species of determinateness which is distinguishable from the idea that God is able to form complete specifications for individuals even *sub ratione possibilititis*. In this sense of determinateness, *individual* predicates such as red or blue are sharp and distinct ideas. We will examine this sense of determinateness later on in the thesis.

[8] In other words, Leibniz, strictly speaking, is committed to the idea that there is only *one* possible fully determinate Adam. A fully specified individual who was two inches shorter than the real Adam, but who was like him in every other respect would not, strictly speaking, be Adam. He would be another complete individual notion, say $Adam_2$. Leibniz it seems must hold that this is the case, since he believes that all predicates are contained within the notion of a subject.

to the question as to what difference creation makes. One might say that creation is when a possible X (which is perfectly determinate) goes from being merely a thought in God's mind to being external to God as well. We often talk in a similar way about our own creations. I have carefully planned this thesis for example. I have been thinking about it for a while. We might say that slowly the thesis is passing from being a series of thoughts in my mind to becoming an external reality. It is passing from being a mental thesis to being a non-mental one. Naturally in my case, since I am imperfect, the thesis is also gaining determinateness since (alas) I have not got a perfect mental image of it. It cannot be said that I am copying it out from my mind. It gains determinateness as I write it since more and more predicates become either true or not true of it.[9] But, according to the Leibnizean view of possibility, if God were to write a thesis there would be no gain in determinateness. He really would be simply copying from His mind. He would be giving external extra-mental reality to something that was previously entirely mental. Under this conception of creation, God copies out what is in His mind and by so doing gives it an external extra-mental reality it once lacked. I find this account of creation deeply unsatisfying. The notion that creation is simply the replication of ideas in actuality seems to reduce God to merely a species of photocopier.

My dissatisfaction with this account of creation is not, however, a capricious whim on my part. There is, as we shall discover, an alternative to the Leibnizean conception that possibility is determinate. We shall, however, leave the main details of the arguments to chapter three when we discuss the Peircean alternative to the Leibnizean picture.

The possible worlds picture also seems to prevent any novelty or surprise. God contemplates determinate possible objects such as Adams and Eves and then gives them an external reality they lacked. Where is the novelty or serendipity in that? One wonders why God would want to create anything at all, if its determinate reality (albeit mental as opposed to extra-mental) is already there in the region of His understanding. Is not God content with mental possible worlds? Indeed one might argue that a possible world solely in God's mind is a better world than one that has the taint of being separate from His mind. Surely a possible world safe and secure in the regions of God's understanding is a better thing than one which gains extra-mental reality.

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[9] Contra the notion that truth is somehow timeless, I do not think it is true or not true of this thesis now (2nd August 2003), that it either ends with the word 'God' or does not. We shall examine this idea later on.

In reply to this, it might be argued that God creates things outside of Himself precisely because those things are given independence from the divine by virtue of their extra-mentality. For example, a determinate possible Eve is very different from a determinate actual Eve because the latter has a self-consciousness that the former has not got. A non-mental Eve is able to think and feel. With a possible Eve there is nothing it is like to be Eve,[10] but with an actual Eve there is that unique phenomenological flavour that is Eve's way of feeling and experiencing the world. Thus it might be argued God does not create the world in order to give Himself a surprise, but to give life to that which was lifeless, to create independent centres of consciousness.[11]

I agree that at least part of the motive of creation is the making of other centres of consciousness, to make things that have their own way of perceiving the world. However, I will argue that, as a matter of fact, under the possible worlds model it is very hard to show how this could be the case. There is, if you like, too much closeness between the divine idea and the created object to allow the created object enough room to be itself. What we want is a model of creation that allows the created thing enough room to be itself. This is, of course, all very metaphorical, but I hope that it will become clear when I try to make the case in the course of the thesis.

Finally, of course, under the possible worlds conception we cannot say that God creates from nothing because he surely does not. There is something prior to the creation of Adam, namely the complete specification of Adam that is perfectly formed in God's mind. If there is this perfectly determinate conception of Adam it is hard to see exactly what God's creation is all about and why it is so amazing.

Leibniz's views on possibility have been the most influential in modern thought about modality. Of course, most philosophers reject the notion that somehow all the truths

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[10] I think it could be argued that a possible Eve could have self-consciousness. If creation is merely the actualization of *exact duplicates* of possible things, then, the self-conscious Eve that comes to exist would have to be actualized from a possible self-conscious Eve.

[11] This contention would not explain why God would want to create things that are not centres of consciousness such as rocks and stones. Of course, one could say that God creates such things as mountains and hills for their aesthetic qualities. But if possible mountains and hills are determinate things, then, it would appear that they are already beautiful prior to actualization. Why then bother to make them actual?

about a person are contained within the idea of that person. However, as we shall see in the next chapter, most philosophers who accept the Leibnizean notion that other possible worlds exist agree that these worlds and the denizens therein are determinate individuals.

Chapter Two

The Ontology of Modern Modal Theories

We have established that for Leibniz possibility is determinate. How true is this of modern writers? Is there broad agreement that possibility is like actuality in that there are determinate entities that have maximal sets of properties? Unfortunately, the precise question as to the determinate (or indeterminate) status of possible worlds and possible objects does not seem to occur to many modern writers. It is not a question that is explicitly addressed in recent theories of modality. One of the few recent writers who specifically acknowledges that there might be an alternative to the determinate conception of possibility is Robert Adams. In his article 'Theories of Actuality' he makes reference to the Hartshornian contention that the difference between actuality and possibility is that the former is determinate while the latter is indeterminate. Adams says,

> In accepting the presupposition that there is a plurality of completely determinate possible worlds, I am already ruling out one theory of actuality. According to Charles Hartshorne, the actuality of the actual world consists precisely in its complete determinateness, and there are, strictly speaking, no other possible worlds but only other possible kinds of world. [Adams 1974 p191]

Adams mentions the alternative conception only to reject it, but at least the alternative is mentioned. This does not appear to be the case with the other main thinkers in the area of the ontology of modal logic. This does not make the task of this chapter any easier. And what exactly is the task and main focus of this chapter? We need to look at the main theories of modality. This will not be an exercise in formal modal logic - our focus will be on the ontological commitments that various writers are prepared to make as they try to make sense of such locutions as "It is possible that this could be the case" or "Y is a possible world" or simply "X is possible". That possibility is determinate will I fear just prove to be a background assumption that they think unworthy of defence or argument. Nevertheless, it is instructive to examine the ontological commitments of various writers, even if it proves to be the case that they

all share this crucial presupposition.[12] For the first part of this chapter, for ease of presentation and clarity, I will use the notion that a possible object is determinate if it has a maximal set of properties. Later on I will introduce the notion of another species of determinateness - the notion that *individual* predicates such as "is blue" or "is red" are themselves sharp and distinct. For now, however, we will stick to the idea that determinateness consists in having maximal sets of properties.

We are looking, then, at some of the ways that philosophers have tried to make sense of our intuitions about the nature of possibility. We will find as we look through the relevant philosophical speculations that our familiar intuitions are difficult to make sense of in a consistent and rigorous manner. It is a bewildering part of philosophy - not least because much of the vocabulary is ordinary and everyday, but taken out of its usual context and the meaning refined. For example, what one writer might mean by the innocent word 'actual' may differ subtly from what another writer means. We must be vigilant. It is, however, no part of my aim to present an exhaustive survey of this area. What I am trying to do is look at the area in broad outline in order that the Peirce/Hartshorne thesis about the nature of modality might be seen in its proper context. Its revolutionary character may be seen as we compare it with the other theories that propose to make sense of our intuitions about possibility.

The most prevalent notion in modern speculation about possibility is the idea of the possible world. As we have seen, Leibniz originated this rather colourful locution, but it is only recently that, under the influence of Saul Kripke, its centrality in modal discourse has come about. Kripke used the Leibnizean idea of a possible world to give a semantic model to a formerly uninterpreted purely formal area of logic.[13] Logic is just a series of inscriptions and rules for moving the inscriptions about - in other words it is purely syntactical - unless a semantic model or interpretation is given to the inscriptions. The inscriptions have got to become symbols for something. Kripke

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[12] Naturally, this chapter will not be exhaustive. The literature on possible worlds semantics and its interpretation is immense. I have found Loux's book *The Possible and the Actual* very helpful, in particular the introduction and the excellent article by Lycan 1979 p274-316. John Divers' recent book *Possible Worlds* is probably the most comprehensive treatment of Modal Actualism and Lewis' Realism. Unfortunately this book came to my attention too late to make much contribution to this chapter.

[13] Apparently there were attempts to give a semantics for S4 in terms of the relationships between line segments.

proposed that the symbols of this area of logic should be interpreted as being about possible worlds or, to put it in the jargon of the logicians, we quantify over possible worlds.

Kripke's model has the advantage of giving semantic interpretations for a wide diversity of systems of modal logic and it seems to connect in a satisfying way with our pre-theoretical intuitions about modal matters. Most people believe, for example, that what is metaphysically necessary could not not be true. Wherever one could find oneself what is metaphysically necessary could not vary. The system of modal logic that seems to keep to this insight the closest is called S5.[14] In this system, possibility and necessity become something that range over all possible worlds rather than just a subclass of those worlds.[15] Using this system (S-5), we can say that something is metaphysically necessary if it is true in every possible world. Something is possible if it occurs in at least one possible world. This seems to convey in a vivid (and formally satisfying) way our instincts about matters modal. No matter what happens it will always be true that 2+2 will equal 4. In every situation we could come across or speculate about, this truth seems to survive any changes we might envisage - thus it is true in every possible world.[16] For something to be possible it must be able to happen in some situation. Thus it is true in at least one possible world. Something that is logically impossible - say a round square - does not turn up in any possible world at all. In no situation at all could we ever come across such a thing.

The possible worlds interpretation of modal logic is undoubtedly a very powerful tool, but it gives rise to some significant concerns, especially about the exact ontological status of possible worlds. If they are such powerful semantic tools, they deserve to be made sense of too. What then exactly is a possible world? It cannot just remain uninterpreted since otherwise the whole semantic model seems curiously circular. We

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[14] Other systems include M (or T), the Brouwer system and S-4. Each one accepts different foundational formulas as the basis of its system.

[15] Lycans adds the qualification that an alternative semantics for S5 is to divide worlds up into equivalence classes. Here the classes of worlds are not accessible to each other, but in each class the accessibility relation between the worlds is reflexive, symmetrical and transitive: 1979 p26.

[16] In 'Modal Deviancy' Gabriel Rosen considers the Q – a fictional tribe who reckon that numbers do not exist in every possible world. If the existence of numbers is not necessary, then, 2+2=4 would not be true in every possible world. It would presumably be meaningless in some.

have said that something is possible if it occurs in some possible world. Surely this is just a roundabout way of saying that something is possible if it could occur. Surely the word 'could' here is almost a synonym of 'possibly'. Are we just saying that something is possible if it is possible? Similarly we have said, the logically impossible occurs in no possible world - a suspiciously roundabout way of saying that the logically impossible can never (possibly) happen. What we need is a formulation or way of understanding a possible world that does not lead to this kind of circularity. We need to understand what a possible world is.

David Lewis: Extreme Modal Realism

One way of understanding possible worlds is proposed by David Lewis.[17] He says that possible worlds really exist as full blown spatio-temporal things.[18] The possible younger sister I never had really exists as a real person in another possible world. We call that world 'possible' rather than 'actual' since we reside in this world. The word 'actual' is, according to Lewis, indexical or sensitive to its context. We call the world we live in 'actual' because this is the possible world (out of the many) we happen to inhabit. This proposal that there are other full-blown realities strikes many people as absurd. Astronomers invest a great deal of time, effort and money building huge telescopes that seek out new worlds in the depths of space. The idea that philosophers have done something analogous to this just by sitting in a comfortable armchair and speculating about how best to interpret what we intuitively think about might appear a little perplexing for an astronomer. But Lewis insists he is just giving voice to our pre-theoretical intuitions and ways of speaking about modal matters. We do after all say there are other ways things could have been. Lewis says this,

> I believe there are possible worlds other than the one we happen to inhabit. If an argument is wanted, it is this: It is uncontroversially true that things might have been otherwise than they are. I believe, and so do you, that things could have been different in countless ways. But what does this mean? Ordinary

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[17] See Lewis 1973 esp p 84-91.

[18] Of course, if it is possible that there are worlds that are not spatio-temporal, then those worlds exist as well. Lewis, however, believes that spatio-temporality or something very like it is necessary since it is by the presence of spatio-temporal relations between objects that Lewis construes membership of a world and it is by the absence of spatiotemporal relations that Lewis construes non-membership. Lewis 1986 p 69-78.

language permits the paraphrase: there are many ways things could have been besides the way that they actually are. On the face of it, this sentence is an existential quantification. It says that there exist many entities of a certain description, to wit 'ways things could have been'. I believe things could have been different in countless ways. I believe permissible paraphrases of what I believe; taking the paraphrase at face value, I therefore believe in the existence of entities which might be called 'ways things could have been'. I prefer to call them possible worlds. [Lewis 1973 p84.]

It seems to me that Lewis' proposal should not just be rejected out of hand. It tries to take seriously what we apparently commit ourselves to by our ways of thinking. Most philosophers, however, have rejected his interpretation of possible worlds.[19] Its extreme realism seem to allow far too many things into our ontology. But how are we to interpret our modal commitments? Is there another way of understanding possible worlds that does not commit us to the idea that there are worlds in which everything possible actually[20] happens?

Varieties of Actualism

Actualism tries to accommodate philosophical talk about possible worlds by saying that possible worlds can be made up in some way from the constituents of the actual

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[19] One exception seems to be Colin McGinn who in his recent *Logical Properties* says, "...merely possible entities, such as the younger sister I never had, really do exist, and did exist before I ever formed the concept of them - though they do not actually exist." (p39). McGinn does not seem to commit himself to the indexical reading of actuality, but nevertheless his account does steer close to Lewis'. I think that McGinn would qualify his claim that his possible younger sister really exists by saying that she is some kind of abstract entity. If this is so I doubt she could really be the younger sister he never had since any actual younger sister of McGinn would surely not be abstract. I will be disputing throughout the course of this thesis that possible things can really be identified in some way with actual things. The possible and the actual are too different for any identification between them because possibility is indeterminate while actuality is determinate.

[20] As I have said, Lewis believes that 'actual' needs to be interpreted indexically. It behaves just like the word 'here'. So when I say that everything 'actually' happens I mean 'actually' in its world relative sense. Lewis uses this distinction between actual and nonactual-relative existence to introduce a new existential quantifier that will avoid an all too possible contradiction. If he uses only the standard existential quantifier backwardsE, then it is all too easy to interpret him as saying $(\exists x) \neg(\exists y) (x = y)$, which claims the contradictory: there exists something that does not exist. With a modified existential quantifier he can say instead $(\exists x) \neg(\exists_{\omega} y) x=y$. The quantifier $\exists_{\omega}$ says something more restrictive than the standard existential quantifier - it says that something exists relative to a particular possible world. Thus the formula can be read

world. In this view, the world we have around us is ontologically abundant enough to make sense of our possible worlds talk. Thus Loux says,

> [Actualists] have argued that we can accommodate the framework of possible worlds within the context of an ontology that recognizes no quantification over nonactual objects. The proponent of this view...contends, then, that the only things that exist are objects that exist in the actual world; and he wants to claim that an actualist ontology is sufficiently rich to accommodate the idea that ours is not the only possible world. On his view, possible worlds can be identified with actually existing objects - things like properties, relations, kinds, and states of affair - for which there is no clear-cut distinction between existence and instantiation. [Loux 1979 p48]

Perhaps the best way to understand this idea is to look at a Robert Stalnaker's theory of modality. His ideas arise from a criticism of Lewis' extreme modal realism. Stalnaker focuses in on Lewis' claim that the 'ways things could have been' are the same sort of thing as the world itself. Lewis is not saying that possible worlds are shadowy, abstract entities - he is committed to the thesis that they are just as real to their inhabitants as the actual world is to us. Lewis is insistent upon this point: "When I profess realism about possible worlds, I mean to be taken literally...Our actual world is only one among others. We call it alone actual not because it differs in kind from all the rest but because it is the world we inhabit." [Lewis 1973 p85]. Actuality, as I have pointed out, is in Lewis' understanding, indexical or world-relative - what one calls actual depends upon what possible world one happens to inhabit, so there are flesh and blood counterparts[21] of me in other possible worlds. It is this contention that possible worlds are just the same in kind as the actual world that Stalnaker wants to deny, but he does not want to lose the right to say that possible worlds in some sense exist [Stalnaker 1976 p459-464].

In Stalnaker's view, then, to say possible worlds exist is not to say that they are things of the same sort as the actual world. It might be thought paradoxical that Stalnaker can claim that possible worlds exist without accepting Lewis' more extreme realism. The

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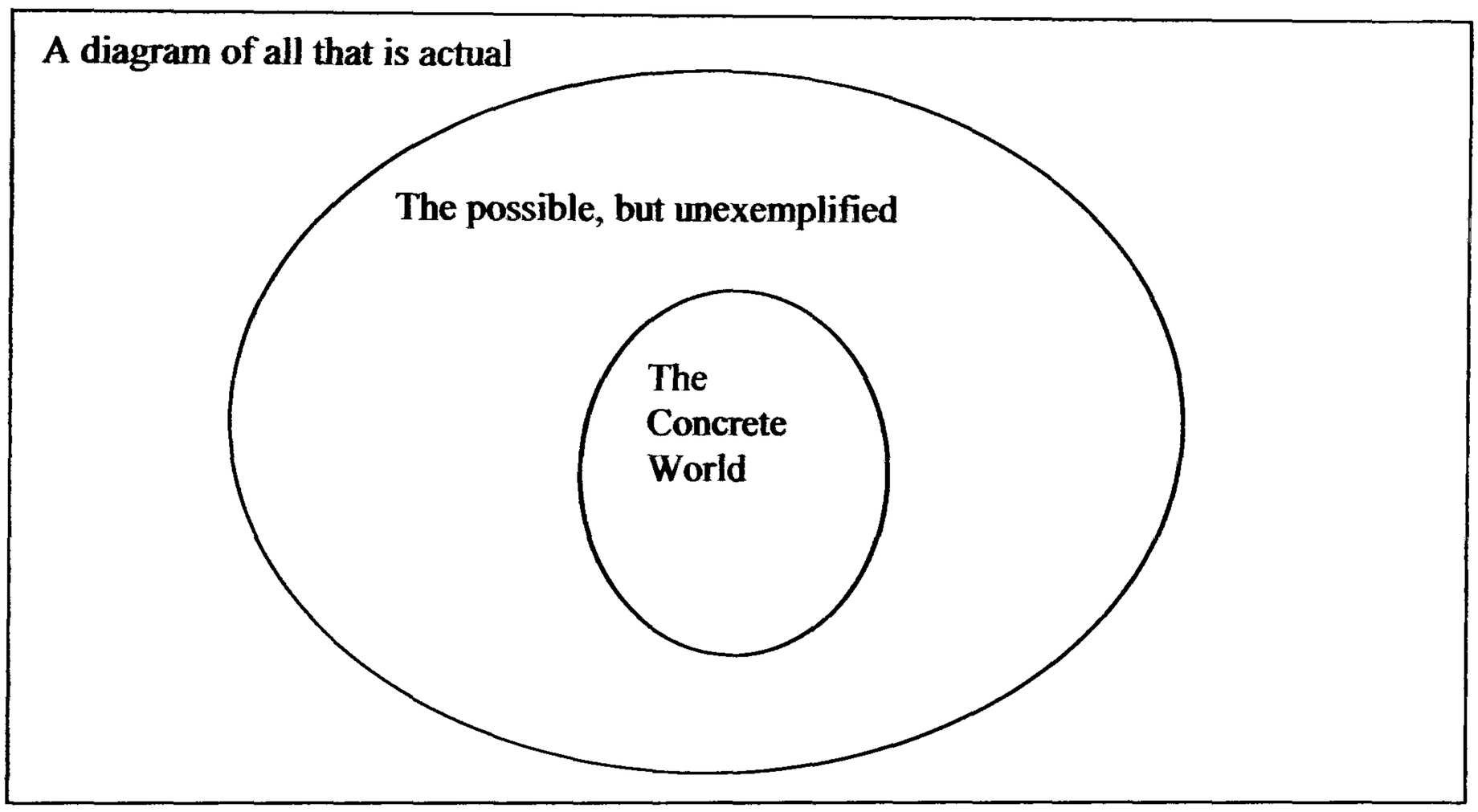
as saying that there exists some x which does not exist in ω. [See Lewis 1973 p86-87, Grayling 1982 p75. See Lycan 1979 p283-286 for criticism of this approach].

[21] Lewis says that there are no transworld individuals, just counterparts. Thus the truth of 'Skippy would fall down if he had no tail' is assured or grounded in the existence of another individual very like Skippy in another possible world. This is similar to theLeibnizean idea that individuals very like me ensure that I am not a necessary being.

argument Stalnaker uses turns on what he perceives is an equivocation in Lewis' argument. Lewis seems to identify 'the way things are' with the actual world, but the former is a property, the other the world itself. In other words, there is a mistaken identification of substance with attribute or property, but one can accept that properties can exist unsubstantiated while not accepting that individuals can exist unsubstantiated. But Lewis' argument seems to imply that 'the way things could have been' is an individual while in actual fact it is a property. Ordinary language commits us then not to the full-blooded realism of uninstantiated individuals, but to the lesser realism of unsubstantiated properties; that is, we are only committed as far as ordinary language goes, to the thesis that 'there are ways that things could have been' and this 'way things could have been' is a property, a property that in fact is not instantiated.[22] Perhaps a diagram would help us to understand what is going on:



Here we see that the outer circle bounds the possible. A proper subset of the possible is our flesh and blood reality - the desk in front of me, the field outside..etc. The difference between these and the properties and relations and kinds which are merely

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[22] Stalnaker does indeed identify possible worlds with uninstantiated properties, but insists that these are to be understood as being in *wholes* or as irreducible complexes of properties – they are sometimes called world-natures. In other words, there is a holism, a wholeness about the properties that possible worlds are being identified with. They cannot be considered as individual properties, but as complexes of properties. 'A way things could have been' is a property, but this property is made up non-reductively from its members which are themselves properties. So possible worlds are identified with complexes of properties, not just with properties *per se*; a possible *world* is more than a just sets of properties who just happen to be clumped together more or less at random. Stalnaker builds from the 'big' notion of possible world down to the 'smaller' notions of possible thing, possible object.

possible is that they are instantiated or exemplified. Stalnaker is committed to the actual existence of uninstantiated properties which falls far short of Lewis' extreme modal realism. (As I mentioned in footnote 21, these uninstantiated properties should not be viewed as independent individual properties. Stalnaker wants to say that possible worlds are irreducible items in our ontology. The outer circle bounds "ways *things* could have been". Note the plural; as far as Stalnaker is concerned there is just no sense in looking at individual possibilities like Newcastle winning the cup. In isolation this means very little; it is only as a member of a whole way things could have been that it makes full modal sense.)

Stalnaker's theory is called an actualist one because there is nothing else that he is prepared to quantify over. There are no non-actual things that exist. When Lewis says that the actual world is roughly to be identified with 'I and my surroundings' Stalnaker includes uninstantiated properties and such things to be included in this.[23] But there is nothing outside this - no non-actual but possible individuals waiting in the wings of reality.

Let us approach the idea from a slightly different angle. Stalnaker rejects the claim that the indexicality of actuality leads to extreme realism. He accepts that the word 'actual' is correctly analysed as being indexical, but denies that this leads into an argument to the effect that what distinguishes our actual world from possible ones is that we happen to be here and they happen to be there. Stalnaker argues,

> The problem is avoided when one recognizes that the standpoint of the actual world *is* the absolute standpoint, and that it is part of the concept of actuality that it should be so. We can grant that fictional characters are as right from their point of view, to affirm their full-blooded reality as we are to affirm

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[23] Divers comments upon this on p228-229. I think that there are grounds for complaint against actualism here. It is asserted that uninstantiated properties are actual. But, of course, uninstantiated properties are also meant to be the ground of the possible. We have, it seems to me, an uncomfortable tension between the notions of the actual and the possible. That is, some possible things are seen as actual, i.e., *un*instantiated properties, other things are actual *simpliciter*, i.e, instantiated properties. It seems the actualist, if he is to insist (as it seems he must) on the actuality of the uninstantiated, be prepared to admit that items have degrees of actuality. I find this implicit notion of degrees of actuality a little hard to swallow. I prefer, as will be seen, Hartshorme's approach which allows a clear-cut distinction between the possible (the indeterminate) and the actual (the determinate).

ours. But their point of view is fictional, and so what is right from it makes no difference as far as reality is concerned. [Stalnaker 1976 p458 Emphasis in original.]

So a proper understanding of the concept of actuality leads us away from Lewis' extreme realism to Stalnaker's actualism which accepts the existence of uninstantiated properties, but not concrete, fleshy individuals.

Another variety of actualism is proposed by Alvin Plantinga in his book *The Nature of Necessity*.[24] In Stalnaker actuality is made up of ways things could have been, one of which is instantiated. For Plantinga, actuality is made up of states of affairs some of which obtain. Let me try to make this clear. First, what are states of affairs? Plantinga says they are abstract objects that have no spatial or temporal properties; in fact, their existence is necessary.[25] So it is necessary that the possible state of affairs answerable to the proposition 'Tony Blair being bald' exists. This does not mean that Tony Blair's baldness is necessary, only that his baldness is necessarily possible. As we know in 2005, Tony Blair is not bald, but the possibility of his baldness is necessary even if he chooses to pay for special cosmetic surgery.

This is not to be understood as equivalent to Lewis' claim that there really exists in a spatio-temporal dislocation[26] a fleshy Tony Blair who is already saving money on shampoo. States of affairs are not that kind of thing - as said before, they are abstract objects. Even the actual state of affairs is not a spatio-temporal thing; presumably by this Plantinga means that the 'way things are' is a property of the world and not to be identified with the world itself (which is, of course, spatio-temporal).

Now Plantinga accepts the existence of possible states of affairs, but distinguishes between existence and obtaining. All states of affairs exist, but only some obtain.

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[24] See Plantinga 1974b esp chapter VII. See also Plantinga 1976.
[25] Loux calls Plantinga a Platonist because he believes that properties and states of affairs exist but are abstract objects. See Loux 2003 p203.
[26] A spatio-temporal dislocation is one which is not connected either by distance or time from another location. There is no causal interaction. See Sanford 1989 p 164 for more on this and the whole of chapter X (he uses Roman numerals) for his doubts about possible world semantics for conditionals.

Indeed all states of affairs *necessarily* exist.[27] What he means by this is that states of affairs are necessary beings, but the obtaining of most states of affairs is contingent. Our possible world - which is a maximal state of affairs - is just one of an infinite multitude of other existing possible worlds (or abstract maximal states of affairs). The difference between this world which we inhabit and other possible worlds is that this one obtains and the others fail to obtain. What is it for a state of affairs to obtain? Plantinga tries to explain by relating obtaining of states of affairs to truth for propositions. (We see here the conceptual similarities between Plantinga's position and Robert Adams'. See below.) Plantinga says,

Obtaining or *actuality* for states of affairs is like truth for propositions. The proposition

(3) G. Cantor is a mathematician

is true; had things been appropriately different, it would have been false. *False*, but not *non-existent*; there would have *been* such a proposition, but it would not have been true. [Plantinga 1974 p47 Emphases in original]

Michael Loux illuminates this point by saying that obtaining is analogous to the exemplification of a property; all properties are there waiting in the wings - they are necessary beings - but the exemplification of redness, for example, depends upon whether there are red objects [Loux 2002 p203]. Here Loux is explaining Plantinga's notion of obtaining by looking at it in relation to Stalnaker's notion of instantiation. So obtaining and its analogous concept exemplification are modally significant - failure to obtain or be instantiated means that a property or state of affairs does not take a part in our flesh and blood reality.

Let us put Plantinga's theory and Stalnakers' side by side to point out similarities and differences. As we have just seen, Stalnaker uses the concept of exemplification while Plantinga uses the concept of obtaining. Both play the same role in their actualism. Possible things are possible because they could be exemplified or they could obtain. In Stalnaker the complex but irreducible properties 'ways things could have been' are actual but most are not exemplified. In Plantinga, all states of affairs exist or are actual in our world, but only some obtain. Thus possibility is being defined in terms of

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[27] Including impossible states of affairs like 9 being a prime number. This state of

exemplifiability or obtainability. This means that for both types of actualism, possibility is a real objective feature of actuality. Not all philosophers have been so ready to think this. Indeed, there is a lingering suspicion about the acceptability of proposing that reality in itself could be modal. We shall soon look at some of the theories that try to show how we could do justice to our talk about possibility without saying that reality itself contains modality as an objective feature. Before then we need to look at one more actualist theory.

Robert Adams claims that possible worlds can be understood as set of propositions, which, as a set, have certain characteristics. These sets he calls world-stories. Thus Adams says,

> Let us say that a world-story is a maximal consistent set of propositions. That is, it is a set which has as its members one member of every pair of mutually contradictory propositions, and which is such that it is possible for all of its members to be true together. The notion of a possible world can be given a contextual analysis in terms of world-stories. [Adams 1974]

Adams' account, is in the jargon of philosophers, a *de dicto* account of possibility: the modalities that are described in a world-story attach to propositions.[28] This contrasts with Stalnaker's account where possibilities are *de re*, i.e., the modalities attach not only to propositions, but also to properties. In other words, for Adams *de re* statements about possibility are to be reduced to *de dicto* accounts of the possibility of certain propositions. Thus

(1) Tony Blair will possibly go bald (*de re*)

is to be understood as

(2) It is possible that Tony Blair will go bald (*de dicto*).

Adams' theory is also an actualist one. In his paper 'Theories of Actuality' he claims that there "are nonactual possible worlds, but they are logically constructed out of the

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affairs exists but could not obtain. See Plantinga 1976 p258.

[28] For more on the difference between *de dicto* and *de re* see Loux 1979 p51-53 and Grayling 1982 p64.

furniture of the actual world" [1974 p203]. The actual entities that constitute the architecture of the possible are propositions.

What exactly is the difference between Stalnaker's and Adams' theories of modality? Both are reductive in the sense that they are actualist: that is, they attempt to explain our modal notions by limiting their ontologies to items in the actual world. For Stalnaker, the ways things could have been are complex properties (i.e., world-natures), but are, with the exception of our flesh and blood reality, uninstantiated. Thus they are part of the actual world, but are uninstantiated parts of it. To be fully real, then, in Stalnaker's view is to be instantiated. Adams, on the other hand, is committed to explaining things modal by recourse to the existence of propositions. There exists, for example, the proposition expressed by the sentence "Unicorns exist". This is possible because the proposition is a member of some world-story. A world-story is a maximal set of propositions (a maximal set is a set "which has as its members one member of every pair of mutually contradictory propositions" [Ibid p204]. Now just because a proposition is a member of a world-story does not make it true. There are no unicorns and so the proposition that there is is strictly speaking false. The proposition expressed by the sentence "St Paul's is in London" is a member of the world story all the members of which are true. Thus for Adams actuality boils down to truth - indeed, Adams calls his theory the true story theory of actuality [Ibid p205].

Just as obtainability and exemplifiability play the role of explaining what it is to be possible in Plantinga's and Stalnaker's accounts, so "being false (but possibly true)" performs the same task in Adams' theory of modality.[29] All these actualist accounts

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[29] As a matter of fact, all are primitives in the logical architecture of their respective systems. They define, but are not themselves definable. Note, however, that some would claim that modality has not been fully explained since instantiability and obtainability are modal notions. We have modal notions as primitives in order to explain other modal notions (on this see McGinn 2000 p69-74). This is where Lewis claims that his theory is better. Flesh and blood, 'real' possible worlds are the primitives in Lewis' system. They are not modal and so the modal is, he argues, fully explicated. (Lewis' theory is, therefore, a kind of non-modal nonactualism.) Recent criticisms of Lewis have honed in on his claim that his theory is more explanatory. How can an egg dropping and smashing in a spatio-temporal dislocation explain the possibility of this egg dropping and smashing? Another criticism asks how we could ever know about the egg dropping in a spatio-temporal dislocation if there is no causal

are reductive. Many reductive theories try to explain something puzzling in terms of something else that appears more familiar. It is no different here. Possible worlds turn out to be uninstantiated ways things could have been or states of affairs that have not obtained or as sets of propositions that could be true. But modality has not been eliminated - possibility is still understood to be a real feature of the world. Thus Loux calls the theories we have discussed varieties of *modal* actualism.

Let us at this point examine the theories we have looked at so far in terms of whether they would commit themselves to the notion that possibility is determinate. Adams certainly thinks so. As we saw at the beginning of this chapter, he rules out the contention that possibility is indeterminate. It is also fairly obvious that Lewis thinks that possibility is determinate. If the possibility of the world being hit by an asteroid is to be thought of as an asteroid hitting a counterpart of earth in another space-time dislocation, presumably everything about that asteroid and that earth is specifiable down to the last detail. There is no indeterminateness about that at all. It is, therefore, safe to conclude that Lewis thinks that possibility is determinate.

The same must be true of Plantinga and Stalnaker. Although their ontological commitments are different from Lewis and Adams, there is still the underlying assumption that possibility is a determinate matter - that complete or maximal sets of properties can be attributed to possible items. Thus the difference between the statement "Cantor is a mathematician", which obtains, and the statement "Cantor is not a mathematician", which does not obtain, is not that the actual state of affairs is determinate, while the possible proposition or possible state of affairs is not. No, the whole difference between actuality and mere possibility is simply that the former obtains while the latter does not obtain. There is no difference between the two as far as determinateness is concerned.

I think then that we can accept that the notion of the determinateness of possibility lies as a background assumption for these writers. It just is the case as far as they are concerned that there are determinate possibilities in some sense or other. Their

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interaction between possible worlds. For discussion of these criticisms and Lewis' replies, see Hale 1997 p500-504.

respective ontologies simply do not make use of the notion of the indeterminateness of possibility.

Non-Modal Actualism

As I mentioned, not all philosophers have been happy with the idea that the world is irreducibly modal. They have sought to explain away our talk about modality by reducing to something that is non-modal. Nicholas Rescher is one such philosopher. He tries to make sense of the fact that we do hypothesize, give conjectures, and talk meaningfully of possibilities. How is this possible if those items we entertain are not actual? Rescher tries to answer this by claiming that possibilia are purely mind-dependent.

> (1) The natural world of mind-independent reality comprises only the actual. This world comprises only the actual. This world does not contain a region where nonexistent or unactualized possibilities somehow 'exist.' Unactualized hypothetical possibilities *ex hypothesi* do not exist in the world of objective reality at all.
>
> (2) Nor do unactualized possibilities exist in some mind-accessible Platonic realm existing wholly outside the natural world order.
>
> (3) The very foundation for the distinction between something actual and something merely hypothetically possible is thus lacking in a 'mindless' world. Unactualized hypothetical possibilities lack an independent ontological footing in the sphere of objective reality: They can be said to 'exist' only insofar as they are *conceived* or *thought of*, or *hypothesised*, and the like. For such a possibility to be (esse) is therefore to be conceived (*concipi*). In consequence, possibility is mind-dependent. [Rescher 1973 pp170-171. Italics in original.]

Rescher goes on to add language as another aspect that qualifies the mind-dependence of possibilia. Language is needed to provide an objectivity to possibilia that would be denied them were they just the product of a particular person's mind; we do not want to be committed to this individualistic mind-dependence thesis because then possibilia would be too idiosyncratic, too tied to personality. Rescher says, "The dependency of unrealized possibilities on language gives them the *objective* ontological foothold they undoubtedly possess." [Rescher 1973 p174 Emphasis in original.] This means that it is perfectly possible, despite possibilia being essentially mind-dependent, to allow locutions like "The possibility existed alright only nobody thought of it at the time."

Here the locution can be understood as claiming that the means for the description of that possibility existed, though no one entertained it [Rescher 1973 p174.]

Rescher's view of possibilia is non-realist. Possible worlds do not exist in any sense, nor do uninstantiated properties - the only things that exist are actuals. Possible worlds are seen as not a real, objective feature of the 'mindless' world. The world *per se* does not contain possibility as one of its real features.

As we said on p25, the basic motivation behind reductive theories is to explain something mysterious but apparently useful (locutions about possible worlds) in terms of something which is generally understood to be more straight-forward. So, in Rescher, possible worlds reduce to the less problematic idea of conceivability, while in Adams it reduces to talk about propositions and relations, (e.g., consistency,) between them. For Stalnaker, it reduces to the less problematic notion of instantiability. However, Stalnaker's and Adams' accounts are very different from Rescher's. Rescher's conceptualism is an attempt to explain talk about modality without using modal notions. For Rescher modality is not an irreducible feature of the world; it can be explained away without recourse to notions that are in themselves modal.[30] Think about it like this: because possibility is mind-dependent, if there were no minds there would be no possibility. A mindless world contains no possibility - only minds introduce the notion that things could have been different and thus introduce modality. Adams, in contrast to this, does not attempt to say that modality can be reduced to the non-modal. Indeed, the propositions in a world-story could have been true or could be true in the future. It is no part of Adams' reductive actualism to deny that possibility is in some way a mind-independent feature of the actual world. The untrue propositions of world stories exist whether or not anyone ever thinks about them and are part of the actual furniture of this world; they could have been true. So, while the two accounts are attempts at reduction, one is more reducing (Rescher) than the other (Adams).

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[30] It is doubtful whether Rescher has been entirely successful in his reductive enterprise. Conceivability is certainly a modal notion so whether he has entirely explained modality using only non-modal notions is questionable. See Loux 1979 p 58-59 for this criticism and Rescher's reply.

Another nonmodal actualist approach needs mentioning: combinatorialism. It proceeds from the plausible idea that that which is possible is merely the constituents of this world in a different arrangement. So the possibility of me living in New York relies on the possibility that my body be in a different position. An analogy with chess is often made; there are many games which have taken place, but there all kinds of sequences of moves which have not been played, but which are possible. There is nothing particularly metaphysically mysterious in this possibility. Imagine then the world is made up from 'atoms' or irreducible constitutory elements. There are all kinds of arrangement of this set of constituents which are possible, but which have not taken place. These arrangements are identified with the possible.

Combinatorialism, as expoused by M.J. Cresswell [1972], is neutral as to what these 'atoms' are; the theory is committed to neither physicalism or mentalism or any other option. The theory is only that what makes up the world can be arranged in different combinations. What actually makes up the world is left to science to discover.

But a particularly intractable problem afflicts this theory. What sense can be made in this account of the possibility that there might have been more atoms, more basic kinds of stuff than actually obtain? Surely this is a possibility - that there could have been more stuff in the universe than there actually is. But given that possibility inheres exclusively in the different combinations of basic constituents that constitute the actual world, what sense can be made of this possibility? Some combinatorialists might refuse to accept that this does represent a real possibility, but surely, as Lycan points out, this is completely counterintuitive [1979 p307]. If we refuse to accept that there being more stuff in the universe is a genuine logical possibility, then we are saying that this is a contradiction in the same way as saying that 3 is both a prime and not a prime. But surely there is no contradiction in the conjecture that there might have been one extra atom in the universe than there actually is.[31] (We shall see later that I defend a kind of combinatorialism. See chapter 4)

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[31] Naturally if by atom we mean that thing which is spoken about in chemistry and physics then there could be one more of them, but if a combinatorialist means something like a logical atom in the sense meant by Wittgenstein in the *Tractatus* then perhaps our intuitions would be different. Cresswell refuses to commit himself to what his atoms would be – he would just insist that there are things that do the job of providing the combining stuff that combinatorialists insist is the ground of the possible. See Loux 1979 p307-309.

It might seem that this problem of not allowing the full range of possibilities only afflicts combinatorialism, but it is a problem for all the varieties of actualism we have discussed. If we stick to what is actual as the central core of our possibilist metaphysics, how do we explain the possibility of there being one more person than there actually is? This seems to be a claim about the possibility of something entirely nonactual actually existing. If we maintain the actualist position which refuses to quantify over nonactual objects, do we have enough ontological richness to pay our way in matters modal? Plantinga's way out of the problem is to enrich his actualist ontology by allowing admittance to *haecceities* or individual essences. Thus there are *haecceities* of people who do not exist. It seems to me that this is a worryingly easy solution. It seems all the actualist has to do to pay the ontological bill is put more items into his actualist ontology. Plantinga already has properties, pure sets, propositions, possible and impossible states of affairs and numbers in his ontology - now he adds *haecceities*. One wonders whether an actualist can even go as far as to say that all Lewis' possible worlds are part of what he calls actuality - they are simply separated by being spatio-temporally discontinuous.[32] By doing so his ontology is made so utterly and ridiculously wealthy that he can pay any bill that could ever possibly arrive.

Let us, however, return to the main concern of this chapter, which is to survey modern modal theories and their ontologies in order to ascertain whether or not they commit themselves to a determinate conception of possibility. What then should we say about about Rescher's theory of modality? Is his non-modal actualism committed to the notion that possibility is determinate? It appears to be. Rescher considers the principle referred to earlier:

For any property F: If 'Fx' is false, then '[-F]x" is true.

Where x is an actually existent object this principle certainly applies, but is it, he asks, true of a possible object? His reply is that it is not true of most possible objects since they are identified by an incomplete description. Thus the possible, but non-existent asteroid I may hypothesise to be on a collision course with earth would not be

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[32] Lewis himself discusses this idea in [1986] p97-101.

completely described. Thus my finite mind may leave some details as to its description out - I may not, for example, describe its exact shape, but leave that rather vague. However, says Rescher, the "Leibnizean '*complete* individuation notion'" would leave no property out of its complete description. Thus Rescher seems to reckon that, in ideal conditions, possibilities can be determined in the maximal sense delineated earlier. Certainly if we were to have God's infinite mind as the ontological basis for possibility, then, complete specifications for possible objects seem to be a possibility.

However, let us now consider another important way in which possibility could be said to be determinate. Up until now we have been working mainly with one criterion of the determinate - whether the possible object is *complete*, whether, that is, the principle of *maximality* is true of possible objects. Recall that Hacking and Ishiguro mistakenly thought that Leibniz thought that possible Saint Peters had to be merely possible saint peters (p4). They thought that possible objects could be only conceived of *sub ratione generalitatis*. However, Leibniz thinks that God is able to individuate possible objects completely with what Rescher calls its "complete individuation notion". In this first sense then possibility is determinate. Let us imagine, however, that a less competent deity exists and forgets to think about certain aspects of a possible object. Let us imagine that this deity specifies almost everything about a possible football, except, amongst other things, the date of its making. Thus it is neither true nor not true that it was made on, say, the 31st of May. Would this lack of completeness of description condemn the possible object to being completely indeterminate? It seems strange to say that it would. Except in the obvious sense that it lacks a truth value for a particular predicate, it still has determinateness. The rest of the predicates that form the concept of the possible football are themselves still sharp and distinct. God has no problem conceiving of the colour of the football or, say, its texture: in this second sense there is still determinateness in the realm of the possible, despite a lack of a maximal set of properties. There are then two putative species of determinateness that we can distinguish in the realm of the possible: there is the sense in which God can conceive of the *whole* specification for a possible Adam. There is, also, the sense in which He can consider individual predicates as sharp and distinct in themselves. He can, it seems, form the idea of a possible yellow cylinder that is ten metres high and three metres wide without having also to specify where in the

universe it would be if it were actual. In this understanding of determinateness, there is still a species of determinateness even when God conceives of something *sub ratione generalitatis*.

We will now turn our attention to two writers who are more sceptical about the status of possible objects. Although neither of them, explicitly use the language of determinateness or indeterminateness, it is clear that their ideas at least tend in that direction. First of all let us look at a philosopher who casts doubt on the whole enterprise of modal logic and the whole metaphysics of possible worlds.

Modal Sceptic: W. V. O. Quine

Quine is the arch-sceptic of the possible. He thinks that modal logic leads to unjustifiable logical and metaphysical implications. Logic proper should, according to Quine, be extensional; that is, the truth value of sentences ought to be directly determined by their parts. Thus the sentence $P \wedge Q$ is directly determined (or is truth-functional) from its constituent items, the propositions P and Q. Whenever P or Q are replaced by a proposition, say, R, then as long as R has the same truth-value as that which it replaces, then the same truth-value for the sentence as a whole should be preserved. But the modal operators L (it is necessarily the case that) and M (it is possibly the case that) are not extensional. For example, if it is necessarily the case that P, i.e., LP, it does not follow that it is necessarily the case that Q, i.e., LQ, even if P and Q have the same truth-value.

A related charge concerning substitutivity is made by Quine. Again logic proper should preserve truth by substitutivity of coreferential terms, but modal terms are what Quine calls referentially opaque. Quine gives this as his example,

9 is necessarily greater than 7

The number of planets = 9

But what would be perfectly acceptable in an extensional context leads in this context to the absurd result

The number of planets is necessarily greater than 7.

This last sentence is false (well, at least, arguably false), yet the truth-preserving status of substitutivity of coreferential terms should have resulted in a true sentence. This

kind of consideration leads Quine to question the whole enterprise of working out a logic with L and M as operators.[33]

A related criticism is found in Quine's article 'On What There Is'. In one of the most quoted passages in the history of thought about modality Quine mocks those who accept the reality of possibilia:

> Take...the possible fat man in that doorway; and, again, the possible bald man in that doorway. Are they the same possible man, or two possible men? How do we decide? How many possible men are there in that doorway? Are there more possible thin ones than fat ones? How many of them are alike? Or would their being alike make them one? Are no *two* possible things alike? Is this the same as saying that it is impossible for two things to be alike? Or, finally, is the concept of identity simply inapplicable to unactualized possibles. But what sense can be found in talking of entities which cannot meaningfully be said to be identical with themselves and distinct from one another. [Quine 1948 p74. Italics in original.]

Possibilia are not acceptable because there does not seem to be an adequate principle of individuation or countability. We have no criterion, according to Quine, whereby we can distinguish adequately between nonactual possibles. They appear amorphous, with no distinct edges; what sense can we make of the claim that this indeterminate realm of possibility exists? This is an important insight, crucially so for the purposes of this thesis. Quine's point about the indiscernability of possibilia will be one that we use in the next chapter when we look closely at the Peircean and Hartshornian alternative to the determinate picture.[34]

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[33] Quine also uses the above argument to argue against the idea that modal notions can be anything other than *de dicto*. Take the first sentence in Quine's example, i.e., 9 is necessarily greater than 7. This sentence affirms that the property of being necessarily greater is possessed by 9 in relation to 7. In other words, it says something that makes an extra-linguistic remark about the relationship between 9 and 7. It is, in other words, an ascription of *de re* necessity. Now Quine is staunchly of the opinion that sentences involving modality can only be *de dicto*. He has no difficulty with the *de dicto* ascription of necessity contained in the following, It is necessarily the case that 9 is greater than 7. This says that we regard the sentence - a linguistic item - as being necessarily the case. (Quine would claim that the word 'necessarily' just records our deep reluctance to deny the truth of the sentence.) It does not involve that which Quine would regard as deeply problematic and mysterious - the idea that something necessarily has a certain property. [see Sainsbury 2001 p288-291]

[34] There is, however, an important distinction here between the theory of possibility I will examine and Quine's. Quine thinks that possibility is not a genuine aspect of the world. The world does not have possibility as an ontological category within it. Peirce, on the other hand, seems committed to the genuine existence of an ontological

Rescher tries to meet Quine's challenge. He claims that nonexistent possibles can be picked out and distinguished by means of a defining description. Thus the answer to the question, 'How many possible objects are there?' is met by asking 'How many ways of describing distinct objects are there?'. Presumably, says Rescher, there is an infinite number of ways in which objects can be described and so there are an infinite number of (mind-dependent) possible objects [Rescher 1973 p177]. Possible objects are identical when their defining descriptions are identical and different when not. Thus Rescher believes that an adequate principle of individuation exists for possibilia (although, as we have seen, Rescher wants to explain away modality with the use of nonmodal notions like mind-dependency. His is a nonrealist account).

Rescher's account of how we pick out possibilia by definite description is very close to Plantinga's [1974]. A sceptic might say to a defender of possibilia, 'How do you know that you have correctly individuated the object you wish to talk about? If you wish to talk about counterfactuals concerning Plato, how do you know you have picked out Plato and not just someone else very similar?' This question, according to Plantinga, betrays a vital misunderstanding; it is to think of possible worlds as things we can investigate analogously to how we investigate actuality, i.e., just have a look. What we do to settle determinatively questions of identity of trans-world individuals is essentially stipulative. When we think counterfactually about Plato, e.g., 'Suppose Plato had lived ten years longer' [Loux 1979 p44] we have already stipulated the worlds in which the individual, Plato, was more blessed in life expectancy than the actual one. We have by stipulation picked out the individual we wish to talk about. As Loux puts it, "...we stipulate just which world we mean to talk about, and our stipulation ensures that the individual we are concerned about is the object of our reference." [Loux p44]. It is, then, the false picture of possible worlds being set out before us like material objects that generates the problem [see also Kripke 1980 p43-45].

I have my doubts whether a believer in the objectivity of possibility - that it is not mind-dependent - can solve the identity problem by stipulation. It is true that we

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category of the possible. He sees possibility as a real 'thing'. Peirce would say that possibility is real, but it does not contain individuals. (I am grateful to Nick Denyer of

cannot peer in at possible worlds as if through a telescope and that this false analogy might inspire some wrong-headed thinking. But what are the constraints, what are the rules of our stipulating? If states of affairs are, as Plantinga would have it, abstract objects existing independently of us, how do we explore this abstract world? Naturally we cannot use a telescope, but we do need some way of navigating our way around. Plantinga's stipulation can only mean that by attempting to name a possible state of affairs we have, by mere virtue of having tried to name it, successfully referred to it. This presupposes that possible states of affairs can be named (see below). It presupposes that our language really does successfully get to where it is intended. It presupposes that there is a logical object answering to descriptions of possible but non-actual things like unicorns. What guarantee is there that our language is a tool which is adequate for the purpose of an exploration of this independent region of logical space? I do not think such a question can be answered. I do not think there can be any guarantee. Perhaps it might be better to say that there are no questions of identity in possibility than to say there are some, but that they can never be definitely settled. Again, this must wait for fuller explanation as my thesis progresses. For now let us turn our attention to another eminent voice in the philosophy of modality. I have left Ruth Marcus until last since her doubts about the theoretical admissibility of possibilia are, like Quine's, very close to the kinds of doubt that are contained in the Peirce/Hartshorne account.

Modal Sceptic: Ruth Barcan Marcus

An extended discussion concerning the nature of possibilia is given by Ruth Barcan Marcus in 'Possibilia and Possible Worlds' [1985]. Her theory is again actualist; she defends the ontological primacy of the actual. Thus one of her grounds for not admitting possible but nonactual individuals is to do with the ontological commitments of modal logic. First she tries to answer the question, must Quantified Modal Logic (QML) posit or admit possibilia? Her reply is that an adequate semantic model for QML is acceptable which does not commit the logician to the admission of possibilia in his ontology. To understand how such a semantics is possible, we need to look at Saul Kripke's semantic interpretation of QML. In Kripke's modal semantics we have a set of worlds, one of which is the actual one; each world is assigned a

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Trinity College, Cambridge for pointing this out for me.)

domain of objects. Basically the truth of sentences which contain a modal operator as its major operator is a function of the truth of its relevant part in possible worlds or particular domains of objects. So MP is true when there is at least one possible world in which P obtains. LP is true when P obtains in all possible worlds.[35]

Now, explains Marcus, domains of objects or possible worlds can be coextensive, intersecting or disjoint. In a coextensive modal semantics the same set of individuals as is found in the actual world is posited in each domain. In this model, Marcus claims,

> no entities are spawned that are not in this world and no entities of this world are absent in others. That is consistent with the axiom, variations on which came to be known as the 'Barcan formula,' which said: If M(∃x)A, then (∃x)MA [If it is possible that something A's or has A then there is something that possibly A's or has A] [Marcus 1985 p.195.]

But in his modal semantics, Kripke posited non-coextensive domains and so, according to Marcus, admitted the existence of possibilia. In Marcus' modal semantics there is no referent, Sherlock Holmes, such that a truth-value can be assigned to the statement. "Sherlock Holmes is bald." However, in Kripke such an individual is admitted in a nonactual, but possible domain and so statements about him seem to have a truth-value (though Kripke has since changed his position. See Plantinga 1974 p129 note 1).

I think another diagram would help us picture what is going on here (see overleaf):

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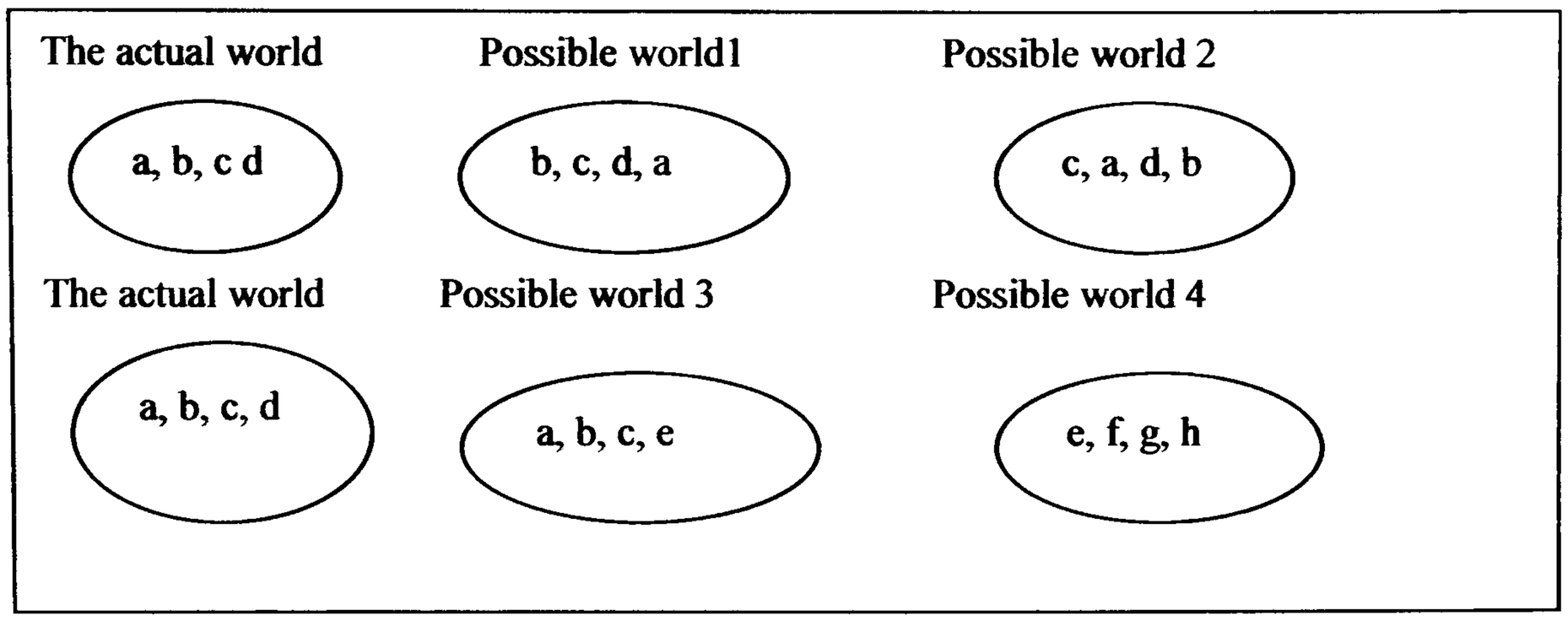
[35] At least this is the case if the accessibility relation or possibility relation between possible worlds is taken as reflexive, symmetrical and transitive. As we have seen, in this semantic model logical necessity is seen as unvarying between worlds. This is the model for the modal system S-5. In weaker modal systems the possibility relation is either just reflexive (which is a model for T or M) or both reflexive and symmetrical (which is a model for the Brouwer system). In these systems the semantic interpretation which Kripke proposes would result in logical necessity being localized. In T or M necessity would be bound to each possible world, that is, a logical necessity in Wi might not obtain in Wii. In the Brouwer system necessity would be symmetrical, that is, it would obtain between pairs of possible worlds [see Loux 1979 p16-28].



On the first line we have the Marcus-approved coextensive domains of objects. The actual world contains objects a, b, c, and d. All other possible worlds (3 and 4) contain the same objects - no nonactual objects are admitted if we follow the strictures of this model. The different arrangements between the objects have been represented by their varying order. On line two, we have non-coextensive domains of objects: in the actual world we have a, b, c and d, but in possible world 3 and 4, we have nonactual items admitted into our ontology. In possible world 3 we have e and in possible world 4 we have e, f, g, and h. (Possible world 3 intersects with the actual world since it shares some objects - while possible world 4 is disjoint from the actual world since they share no objects.)

Let us look back at the Barcan formula. It says that if it is possible that something A's, then, there must be something that possibly A's. Possibility is grounded in the actual: there must be something that possibly A's for it to be possible that something A's. In order to make this clear, let us imagine that someone proclaims that it is possible to ride Pegasus. Let us look at our domain of objects and our possible worlds. If we go along with with Marcus and coextension, we find no Pegasus in any possible world (since we take the objects of the actual world to be the constituents of all possible worlds). So it is not possible to ride Pegasus after all.[36] However, if we have a non-coextensive model, we might find Pegasus in another possible world. So it is possible to ride Pegasus under the ontology of a non-coextensive model. The Barcan formula, on the other hand, proclaims the priority of the actual in our discussion of possibility.

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[36] Plantinga suggests we could say that some actual horse, say, Bucephalus, is a winged horse in another possible world. Here we do not posit nonactual individuals. (See Plantinga 1974b p 130.)

So there is a semantic model for QML which does not posit possibilia, but retains only those objects which comprise the actual world. This kind of model does not accommodate such possibilities as there being individuals that failed to exist or allow counterfactual statements about such individuals.[37] This extension of counterfactuals concerning nonactual objects from counterfactual statements concerning actual objects does seem natural. This would seem to be an advantage of Kripke's semantics, but it does come with an ontological price - the admission of possibilia.

Marcus goes on to discuss some of the theoretical problems in the admission of possibilia to our ontology. It is not so much identifiability problems that cause concern over the positing of possibilia (see Quine above) but that possibilia cannot be objects of reference at all. She argues that the function of proper names is to provide fixed ground of reference for a language:

> The issue is that, to get our language off the ground, there must be publically accessible objects as well as devices for direct reference independent of description. Ordinary proper names as well as other categories of terms such as indexicals constitute such devices...Actual objects are there to be referred to. Possibilia are not. [1985 p205]

To illustrate her point she imagines Leverrier's discovery of Neptune.[38] Before he discovered Neptune all that betrayed its existence were certain astronomical perturbations. Before the planet was named, Leverrier probably framed the thought, 'There might be a planet that explains these perturbations.' Could we not say that the hypothetical, possible planet envisaged by Leverrier is identical to the planet he actually found, "Could I say, on discovering Neptune, that the possible planet I

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[37] Marcus' commitment to coextensive domains and actualism exposes her theory to the same kind of worry that afflicts other varieties of actualism: are coextensive domains rich enough to provide enough ontological material to cover the full range of possibilities? Marcus uses Russell's Theory of Descriptions to explain away apparent reference to non-actual entities (p 197) She says that apparent references to non-actual objects do not refer at all. (See below.)

[38] Here Marcus is disagreeing with Kripke's reading of the same example which he uses in Kripke 1980 p79. Kripke argues that a referent can be 'baptized' with a description. This must be unacceptable to Marcus since then any description could be said to name an object irrespective of its actuality. Thus I might baptize a supposed referent with the description '4000ft mountain in Lincolnshire'; this would not be a true baptism for 'this' is a mere possible. It is not there to be named.

referred to is now actual?" There is something wrong with this way of speaking and Marcus goes on to point it out:

> Until Neptune was discovered, that use of the proper name Neptune was not a referring use...In Russellian terms Neptune is not a constituent of the proposition nor is the statement *about* Neptune after the fact...It seems harmless in formal semantics to speak of assigning an object from this world or any other world to a variable or a name. But we are in the actual world, users of our actual language. The object must be given in actuality for something like ostension to occur and for the name to refer. Proper naming as opposed to describing defines a special basic relation between a word and a thing in a linguistic institution. Naming relates a word introduced into an actual language in the actual world to a thing that is there to be encountered in the world when the event of naming occurs. Acts of naming are acts of actual language users. A possible object is not there to be assigned a name. [1985 p207 Italics in original.]

So possibilia are rejected because they are not objects of reference; it is not because of the difficulty of identifiability and discernability (which is Quine's criticism). Even actual objects can be difficult to identify - it might be hard to decide whether two actual objects, x and y are identical. But at least x and y can be named and can be referred to by means of their name. Contrary to this, Marcus believes that possible objects are *not* nameable - all that can be done is that they are given (as seen before) a definite description and then explained away via the theory of descriptions. In any case, identity does not presuppose actual existence, it is the other way round: "...identity is a relation for objects already given." [Ibid p213].

Marcus' theory is then actualist, but in a more radical way then that actualism defended by the likes of Plantinga, Adams and Stalnaker. It attempts to prioritize the actual by refusing to countenance the admission of non-coextensive domains. It sees possibilia as simply not being there to refer to.

This is, I think, a very important insight. Although Marcus does not use the vocabulary of indeterminateness, her thesis does tend towards this idea. Under the notions given by Peirce and developed by Hartshorne, possibility is not to be envisaged as a collection of things. For Marcus, it appears to be similar. Her thesis is not that it is difficult or impossible to name possible items such as Pegasus, that somehow due to our limits we cannot baptise a possible thing. Rather she is saying that possibility is not to be seen as composed of individuals at all. In our next chapter,

we will explore the difficult idea that possibility is indeterminate. This view of possibility claims that there are no such things as possible worlds and there are no such things as possible individuals. Thus when God created He did not actualize a possible world. Instead He created something that was not there before in any sense at all.

Chapter Three

Alternative Account Concerning Possibilia

In this chapter, we shall examine a radical alternative account of the ontological status of possibilia. This account was inspired by C. S. Peirce and has been developed in various writings by Charles Hartshorne. In order to appreciate its radical nature it is important to keep in mind the character of the Leibnizean account of possibilia. For Leibniz, as we have seen, possible worlds exist in the mind of God; without God possible worlds have no ontological status at all. But this does not mean that what is possible is decided by God; contra Descartes, Leibniz did not believe in Universal Possibilism.

Now we also saw how, according to Leibniz, God can conceive of the complete concept of an individual *sub ratione possibilitatis*. It is the word 'individual' that is important here as we contrast Leibniz's account with that proposed by Peirce\Hartshorne. For God, possibilia do not present themselves in the divine conception as vague and indeterminate, rather they are individual complexes of predicates that together form the idea of a particular individual. Recall that Leibniz says,

> Now there can be no ground for doubting that God can form such a concept [of a possible Adam] or, rather, that he finds it already formed in the region of possibilities, that is to say, in his understanding. [Letter to Arnauld July 14th 1686, trans G Montgomery]

Let us remind ourselves of this notion of the successful individuation of possibilia. How can God individuate something that does not actually exist, but is merely possible? As we have seen, the answer is that God is able to form the complete concept of a possible individual. Other possible individuals are distinct in that they have different complete concepts. Thus the possible individual Adam who is 5 foot 7 and the possible Adam who is 5 foot 8 are distinct individual concepts because they differ in the specification of their predicates. God can either conceive of the maximal set of predicates for a particular individual or can leave one or more predicates out of consideration. For example, God can conceive of a maximally defined Adam or can conceive of an adam. In other words, God can think of an adam who has many of his predicates specified

except, amongst other things, how long his hair is. This adam is an adam conceived of *sub ratione generalilitatis*. With a completely defined Adam we have two senses of determinateness: (1) there is the sense that he has a maximal set of properties and (2) there is the sense that each predicate considered individually is sharp and distinct. With an adam, on the other hand, we have only the second sense of determinateness. Despite the incompleteness of an adam, each predicate in the cluster that constitute the concept is itself sharp and distinct.

We saw in the last chapter that this conception of the nature of possibility is either one explicitly held by most thinkers or is an unstated background assumption of their position. Except for a couple of dissenting voices, the Leibnizean conception of possibility - that it is determinate in some sense - is philosophical orthodoxy. The position examined in this chapter challenges this orthodoxy. Both Peirce and Hartshorne put forward an idea about the nature of possibility that is radically different. Under this conception, possibility is by its very nature indeterminate. Possibility is not to be conceived of as a set of possible (maximal) individuals. Neither is it a set of possible sets of unexemplified predicates.

I hope as this chapter progresses, that this alternative will become clearer. We will look, to begin with, at Peirce's thoughts and ideas about the nature of mathematical continuity. As we shall see, his thoughts about these seemingly conceptually distant mathematical matters underpin his conception of reality and his conception of the nature of possibility. After examining Peirce's ideas we will turn our attention to how Charles Hartshorne develops this understanding of the nature of possibility and applies it to God's creation of the world.

The Problem of the Continuum

One of the most difficult of mathematical problems is the nature of continuity. When I move a finite distance from A to B it seems I can move smoothly between the two locations. There need be no gaps on my journey. There need be no jumps. The journeys that my typing fingers make from key to key, for example, seem smooth and 'non-gappy' ones. Yet the mathematical analysis of my movements is anything but simple. Any movement at all seems to be one fraught with mathematical difficulties

and paradoxes. As is well known, Zeno of Elea used the difficulties in the mathematical analysis of continuity to try to show that motion was impossible. Thus when I go from A to B I must have at least already completed the task of traversing half the distance. But in order to complete the task of going half the distance, I must have completed the task of going a quarter of the distance. In order to have completed this task I must have previously completed an eighth of the journey. And so it goes on. No journey of motion is possible, according to Zeno, since it requires the mover to complete an infinite number of tasks.[39]

The nature of motion is one, then, which involves the nature of continuity. It appears I traverse a continuum of infinite points every time I move. Any line is also an example of a continuum of points. No matter how short the line it seems it must contain an infinite number of points. But how many exactly? This may seem an easy question to answer. Have we not just said that it contains an *infinite* number of points, so is not the answer to the question just *that* - it contains exactly an infinite number of points? Unfortunately things are not so simple as this. Georg Cantor showed that there are different orders of infinite magnitude. Some infinities are bigger than others. The smallest infinity is the set of natural numbers {1, 2, 3, 4...}. This set is called **N**. Cantor showed by an procedure known as diagonalization that the set of natural numbers could not be put in a one to one correspondence with the set of real numbers.[40] There is not a one to one correspondence between the two sets. Some of the real numbers do not have a natural number with which they can be paired. Consequently **R** (the set of reals) is a bigger infinite collection than **N** (the set of natural numbers).

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[39] This is only one way of presenting this particular argument. See Salmon 1970 for a series of essays about Zeno's Paradoxes. Also see Poundstone 1988 esp chapter 8 for an entertaining exploration of some more modern ways of stating the paradoxes.

[40] Real numbers are those which can be expressed using an infinite decimal expansion. Thus 1 divided by 3 is 0.33333333 recurring. This is known as a *rational* number since it is expressible as a fraction (1 over 3) and has a pattern of recurrence in its expansion. Pi (3.14159...) is another example of a real number, although it is also known as an *irrational* number since there is no pattern of recurrence in its decimal expansion. (In fact all the natural numbers are expressible as reals since the natural number 5 is expressible as 5.00000... or as a fraction: 25 over 5) Thus the real numbers are made up of the rational and irrational numbers. Most mathematicians take it as an assumption that the number of the reals registers the magnitude of the continuum. Peirce has a different notion. Cantor's diagonalisation procedure is explained in Moore 1990 p119-122.

Now **N** - the set of natural numbers - is called a *countable* infinite collection. It is countable because it is identical with {1,2,3,4,5...}. It can be counted off one at a time, using the natural numbers to register each member. **R**, on the other hand, is uncountable because the infinite set of natural numbers is not big enough to register its magnitude.[41]

We are now in a position to ask the question of how many points are there in line, how many points, that is, are there in a mathematical continuum? Is it a countable set of points or an uncountable one? Cantor's famous continuum hypothesis says that **R** is identical with what is called the first uncountable cardinal number $aleph_1$ ($\aleph_1$).[42] He also assumed, as do most mathematicians, that **R** is a register of the number of points on a line. This is a staggeringly large collection of points. As we have seen, it is so large that it goes beyond the infinite magnitude of the natural numbers and is consequently uncountable.

Peirce disagreed with Cantor about this measure of the number of points on a truly continuous line. He had already, independently of Cantor, proved the lack of one to one correspondence between the natural numbers and the reals, but firmly disagreed with the Cantorian analysis of the number of points on a continuum. If the number of points on a continuum were identical with the magnitude of **R**, then, it would, he argued, leave gaps on the continuum. It would not be a true continuum. But why did Peirce argue thus? One might insist, with Cantor, that the infinite magnitude of **R** is surely enough to register the number of points on a continuum. It is not just *countably* infinite, it is *uncountably* infinite. Surely that is enough to give us a smooth and uninterrupted series of points, enough to ensure an unbroken continuity between A and B.

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[41] A *denumerable* set is one which has the same cardinality (i.e., size) as the set of natural numbers, N. A *countable* set is one which is either finite (say the set of prime numbers below 10) or has the cardinality of N. Thus a denumerable set is always countable, but the two words have different applications. The definition of 'denumerable' is narrower than that of 'countable'.

[42] $Aleph_0$ or $\aleph_0$ (pronounced aleph-null) is the cardinal number indexing the set of the natural numbers, **N**. Sometimes **N** is called ω. It is denumerably infinite (see note above). $Aleph_1$ is the number indexing the first infinite set after $Aleph_0$. It is the first uncountable set.

Peirce disagreed with Cantor about the nature of the continuum partly because **R** is too small a measure of the number of points. **R** is the only the first infinite set that is bigger than **N**.[43] That there must be other even bigger magnitudes was something proven by Cantor: there are orders of magnitude that leave the largeness of **R** far behind. In order to grasp this point, we must understand that from any set we can generate its power set. The power set of a set is always larger in magnitude than the set from which it is generated. Let us think of the set of the first three natural numbers: {1,2,3}. The power set of a set is the number of subsets that can be generated from the set including what is known as the null or empty set. For {1,2,3} we find we have {0}, {1}, {2}, {3}, {1,2}, {1,3}, {2,3} and {1,2,3}, which is eight subsets. Generally if the number of elements in a given set is n, the power set (that is, the number of subsets including {0}) will be 2^n. So for any set whatsoever there is also its power set, which is even bigger. Thus for Peirce the power set of the natural numbers, 2^N, is the first uncountable set - Peirce called it the "first abnumeral" multitude and identified it with the magnitude of **R**.[44] But if there is the power set of **N**, then, there must be a power set of **R** as well. Thus there are orders of magnitude beyond **R**.

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[43] This is another way of wording Cantor's continuum hypothesis. See McGough 1998 for alternative ways of stating the continuum hypothesis.

[44] Thus Peirce agrees with Cantor that the magnitude of **R** and the first uncountable set ($aleph_1$) are the same. In other words, he agrees with Cantor's Continuum Hypothesis, but not with the idea that it represents the number of points on a true continuum. He agrees, that is, with the formula $2^{aleph0} = aleph_1$, (the power set of $aleph_0$ is equal to the first uncountable set) but disagrees with Cantor's contention that it measures the number of points on a continuum. Peirce's notion that the continuum's magnitude cannot be registered by **R** is not orthodox mathematical theory. In standard transfinite arithmetic, the continuum is just *defined* as the set of reals. It is an (unproven) assumption. Peirce is saying that this assumption should not be accepted. Hermann Weyl, who worked on the foundations of mathematics, thought that the continuum was unrepresentable as the set of reals. He agreed with Bergson that time cannot be represented exactly by mathematical determination. Its continuity defied being represented by points, even when the number of points is seen as being on a one to one correspondence with the cardinality (i.e., magnitude) of the reals. In the continuum of time and space, says Weyl, the "exhibition of a single point is impossible. Further, points are not individuals and, hence, cannot be characterized by their properties. (Whereas the "continuum" of the real numbers consists of genuine individuals, that of the time- or space-points is homogenous.)" [Weyl 1987 p94] John Bell in his lecture 'Dissenting Voices: Divergent Conception of the Continuum in 19th and Early 20th Century Mathematics and Philosophy' looks at other thinkers who dissent from the idea that the continuous can be explicated by the discrete.

Peirce thought that the fact that larger and larger generations of multitudes could be produced was significant for our understanding of a true continuum. Christopher Hookway, commenting on this part of Peirce's philosophy, says:

> Peirce appears to argue that from the possibility of generating ever more numerous sets that any infinite set or sequence, however its members are ordered, involves features which can be recognised as discontinuities, and hence does not represent the structure of a continuum - we can always make sense of replacing a member by an infinite sequence of which it is a member, for example. Hence, we cannot think of the continuum as a complex series of points - for any such sequence displays discontinuities. [Hookway 1985 p177]

For Peirce the continuum has such a super-multitudinous quality that it defies the idea that it can be thought of as a collection of points at all. It is an infinite collection of infinite collections: so multitudinous indeed that the notion of a mere accumulation of entities however great, is too weak to cope with it. (Cantor, himself, recognised the notion of such a total and called it variously an "inconsistent totality" and "the absolutely infinite".[45]) What this all this amounts to, according to Peirce, is that continuity cannot be represented by points at all.

Michael Raposa explains Peirce's idea very clearly:

> ...to define continuity as a collection equal in multitude to that of the set of real numbers is to leave "gaps" in the continuum, producing only the notion of "pseudo-continuity". In fact, one simply cannot "construct" a continuum by collecting and combining *individuals*, no matter how great, how infinitely great their number. [Raposa 1989 p43-44 Italics in original.]

In other words, the nature of continuity precludes the idea that it is made up from or composed by a set of points or individual discrete entities.[46] Such an idea does not do

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[45] See Moore 1990 p127-128. As Moore says, Cantor was deeply religious and thought that this notion of an Absolute Infinity, Ω, tells us something of the nature of God. There is a discussion in Dauben 1979 p142-148 of the way in which Cantor's theory of transfinites was received in contemporary theology. See also Hallett 1984 esp Chapter 1 section 4: Hallett explains that Cantor's 'taming' of the infinite led him to a belief that the transfinites were only types of *quasi*-infinities - the True Infinite was necessarily left unaffected by mathematical analysis.

[46] Later on we will look at Bergson's notions about the nature of movement, time and continuity. His theories about movement (and thus continuity) are very similar to Peirce's.

justice to the smoothness and the uninterrupted nature of a continuum. Raposa goes onto say,

> Peirce explained [that true continuity] "implies that a continuous line contains no points...It seems necessary to say that a continuum, where it is continuous or unbroken, contains no definite parts; that its parts are created in the act of defining them and the precise definition of them breaks the continuity" (CP 6.168). In contrast, the pseudo-continuity of Cantor and Dedekind, of the calculus and the theory of functions, "is only a collection of independent points. Breaking grains of sand will only make the sand more broken. It will not weld the grains into unbroken continuity" (CP 6.168). [Raposa 1989 p44]

Thus Peirce wants to move away from the Cantorian notion that the continuum and hence continuity itself can be understood as being a composite of discrete points even if we say that the number of points is equal to the first uncountable cardinal number $aleph_1$. To use Peirce's own favourite metaphor only a continuum whose members have been *welded* together (so that all individuality is lost) is a true continuum.[47]

We have looked at Peirce's views on the mathematical nature of continuity. Now we need to turn to how these views affected his views on the nature of reality and possibility.

Continuity and Reality

Again and again, Peirce insists that a true understanding of the world depends upon understanding how continuity affects every part of reality. (In doing so, of course, he sticks to the particular (non-discrete) understanding of continuity we have just explored.) He called this "tendency to regard continuity as an idea of prime importance" *synechism* [Peirce 1892 p203]. Now the interpretation and evaluation of this area of Peirce's synechism is not an easy task. The notion that somehow continua are a key to understanding the world seems, at first sight, rather obscure. Hookway frankly confesses that he is not sure whether he understands Peirce's thoughts and calls

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[47] For more on Peirce's views on continuity and his disagreement with Cantor see Eisele 1967. Aristotle, in a difficult analysis of the nature of movement, suggests his agreement that continuity is not to be seen as derived from points, but that the continuity is primary. The continuity of movement is logically prior to the points. (see *Physics*, Book Zeta, sections 1 and 10). For discussion of Aristotle's views see White 1992 esp chapter 1. John Bell's excellent lecture, 'Infinitesimals and the Continuum' lists other philosophers and mathematicians who have favoured a non-discrete analysis of the nature of continuity.

synechism "one of the darkest area of his philosophy" [Hookway 1985 p174. See also p176.]. Nevertheless, we need to examine this area even if perhaps Peirce's thoughts are occasionally only half-formed.

We have, of course, seen one way in which Peirce wants continuity to be of central importance and that is in the analysis of movement. When X moves from A to B, it does not succeed in passing over an infinite number of points, rather it moves continuously. To see movement as somehow being achieved by jumping from point to point along an infinite series of points is to lose the continuity of movement.[48] He says,

> All the arguments of Zeno depend on supposing that a *continuum* has ultimate parts. But a *continuum* is precisely that, every part of which has parts, in the same sense. Hence, he makes out his contradictions only by making a self-contradictory supposition. In ordinary and mathematical language, we allow ourselves to speak of such parts -- *points* -- and whenever we are led into contradiction thereby, we have simply to express ourselves more accurately to resolve the difficulty. [Peirce 1869 p200]

In other words, Zeno's paradoxes are solved if we refine our language in such a way that we lose reference to points or parts in our analysis of movement. However, Peirce does not want continuity only to affect our understanding of movement, but also to become a central component in other areas of our thinking. For example, Peirce wants continuity to be our guiding notion in such areas as memory, time, the connection between ideas and the understanding of evolution.[49] For our purposes of this thesis, however, we must stick with trying to understand how the notion of continuity affects Peirce's conception of what it is for something to be possible. The idea that Peirce defends is that possibility is to be understood in terms of the notion of continuity. That is, possibility is to be conceived as a continuum. There are, therefore, no individual items on the continua of possibility. Peirce puts the point like this,

> That which is possible is in so far general and, as general, it ceases to be individual. Hence remembering that the word 'potential' means indeterminate yet capable of determination in any special case, there may be a potential aggregate of all the possibilities that are consistent with certain general conditions; and this may be such that given any collection of distinct individuals whatsoever, out of that potential aggregate there may be actualized a more multitudinous collection than the given collection. Thus the potential

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[48] Bergson calls this "the spatialization of duration". See chapter ten.

[49] For most of these ideas see the series of essays that Peirce published in *The Monist* from 1891-1893, especially the July 1892 article 'The Law of Mind'. These can be found in *Chance, Love and Logic* - an anthology of Peirce's essays published shortly after his death in 1914. Reprinted by Bison Books 1998.

aggregate is, with the strictest exactitude, greater in multitude than any possible multitude of individuals. But being a potential aggregate only, it does not contain any individuals at all. It only contains general conditions which permit the determination of individuals. [CP 6.185].

Peirce is making two points in this difficult passage. One is the point already made that in the realm of possibility there are no individuals; the other is that possibility is not ruleless - there are general conditions that govern the realization of an actual individual. For example, the continuum of colour may not contain any individuals, but its general conditions are such that it permits the realization of a particular colour. The continuum of colour permits colours to be realized from it; its general conditions are such that we cannot realize from it something of a different kind. An individual of a particular kind emerges from a particular continuum, but was not there previously as a determinate possibility.

Let us take the difference between sleep and waking as an example. Because of Peirce's synechism these cannot be conceived as two distinct items in the sense that there is a radical discontinuity between them. Rather they are to be conceived as being the two ends of a spectrum of purposiveness and consciousness. As Robert Corrington puts it, "Sleep does not break the continuity of the self, but represents a mere diminution of purpose and conscious mentality." [Corrington 1993 p102]. Thus before an actual instance of sleep or wakefulness nowhere in the universe does such a quality exist, but nevertheless that class of which these qualities are members, namely the class or spectrum of consciousness (or unconsciousness) is something which is clear and distinct. We would know, so to speak, that colour was not the kind of thing that would emerge from that particular continuum. Peirce confirms that this is the line of his thought in CP 6.187,

A potential collection, more multitudinous than any collection of distinct individuals can be, cannot be entirely vague. For the potentiality supposes that the individuals are determinable in every multitude. That is, they are determinable as distinct. But there cannot be a distinctive quality for each individual; for these qualities would form a collection too multitudinous for them to remain distinct.

There is, then, a kind of logic in the determinability of the indeterminate; Peirce called this the logic of substantive possibility. Carolyn Eisele puts it like this,

To illustrate [the logic of substantive possibility] he noted that the variety of qualities exceeds not only all number but all multitude, finite or infinite. Qualities are general respects in which existing things might agree or differ. They are mere possibilities. In themselves they have general respects in which they agree or differ, etc. [Eisele 1979 p210].[50]

Richard Creel, in his illuminating book *Divine Impassibility*, explains Peirce's point about the relationship between a continuum and its nature as a general class:[51]

Peirce's point seems to be that we can have a clear and distinct idea of the continuum or universal, e.g., length or redness, of which an actual individual is a part or instance, but at best we can have only a vague and somewhat indeterminate idea of unactualized possibilities of a continuum. Why? Because potentiality can be grasped only in the form of continuity, and continuity is of the nature of infinity, and it is impossible in principle for us to know exhaustively the infinite individuals that can be actualized from a continuum. [Creel 1986 p37].

At its most basic level then, Peirce could be read as putting forward a theory about the relationship between a universal and the realization of a particular. What exists as possible is not a series of individual properties or complexes of properties which form possible individuals, but instead we have general classes or universals which permit the realization of certain properties. There are certain general tendencies or general ways of going forward as the world unfolds, but we certainly cannot see possibility as the actualization of determinate individuals or determinate individual properties. Here, of course, is where Peirce's understanding of possibility conflicts most sharply with Leibniz and his modern day adherents. For such thinkers possibility is precisely a set of unactualized individuals, while actuality is just for these individuals to be actual. Putting it in this rather crude fashion may be a little unfair to the complexity of the issues, but I think it exposes the difficulty in this line of thinking. Apart from the theological concerns I have already expressed about this understanding of possibility, the determinate conception of possibility makes it very hard to distinguish between

[50] This has the consequence that the law of excluded middle does not apply to the possible because possibility is of the nature of generality and this law only applies to individuals. Peirce explains this point in some marginalia in his copy of the *Century Dictionary*: "The principle of excluded middle only applies to an individual (For it is not true that "any man is wise" nor that "any man is not wise.")" [Quoted in Eisele 1967] We will see that Hartshorne argues this as well.

[51] Other books that I have found useful but have not alluded to include Murphey 1961. This contains the most comprehensive comparison between Cantor and Peirce that I know of (see p274-288). Also see Potter 1996 Chapter 8 for a survey of how Peirce's notion of the continuum developed. See Körner 1967 p205-207 for a brief account of how the notion of continuity has developed in the history of philosophy.

actuality and possibility in a non-question-begging fashion. It seems that if a possible X and an actual X are equally determinate, then, the main difference between them can be that one is possible and the other actual - hardly an illuminating way of articulating the difference.[52] Peirce's way of understanding the issue, although at first blush, rather obscure, preserves an important ontological gap between the possible and the actual. They really are entirely different parts of reality - one is indeterminate and non-individual, the other is determinate and particular.

However, we must be careful here in attributing this idea to Peirce without qualification. Recall that, for Peirce, synechism is central. Synechistic understanding must not therefore be applied *only* to the realm of the possible, but *also* to the realm of the actual. It is not just possibility that must admit of synechistic understanding, but also actuality. We must, therefore, be careful in saying that the difference between the possible and the actual lies in the indeterminateness of the one and the determinateness of the other - at least in so far as we claim that it is an interpretation of Peirce's philosophy. What Peirce seems to say is that when something becomes actual it does not lose all its indeterminateness, rather it ascends a continuous ladder of higher dimensionalities of continuity. He explains this with a topological metaphor. Imagine a blackboard:

> This blackboard is a continuum of two dimensions, while that which it stands for is a continuum of some indefinite multitude of dimensions. This blackboard is a continuum of possible points; while that is a continuum of possible dimensions of quality....There are no points on this blackboard. There are no dimensions in that continuum. I draw a chalk line on the board. This discontinuity is one of those brute acts by which alone the original vagueness could have made a step towards definiteness. There is a certain element of continuity in this line. Where did this continuity come from? It is nothing but the original continuity of the blackboard which makes everything upon it continuous. [CP 6.203. Quoted in Raposa 1989 p46]

The line is an individual in only a relative sense. It is a definite thing or discrete entity compared with the utter non-determinateness of the blackboard, but it has not lost all of its original continuity. There is, says Peirce, "a certain element of continuity of this

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[52] One could say that possibilia are *abstract*, while actual things are *concrete*. However, this is a difficult distinction to flesh out convincingly and even if we could is it not the case that some actual things are abstract anyway, i.e., numbers? See Lowe 1999 Chapter 10 for a defence of abstract objects.

line." Yet because there is a discontinuity there is an actual thing - a line. The continuum has been broken and a thing has come into existence that was not there before. This 'thing' is, however, still composed of the continuity of the surface of the board and to that extent we still do not have a clear-cut entity before us. In Peirce's essay in the *Journal of Speculative Philosophy* of 1869 Peirce talks of the difficulty in saying where one thing ends and another thing begins:

> Suppose a piece of glass to be laid on a sheet of paper so as to cover half of it. Then, every part of the paper is *covered*, or *not covered*; for "not" means merely outside of, or other than. But is the line under the edge of the glass covered or not? It is no more on one side of the edge than it is on the other. Therefore, it is either on both sides, or neither side. It is not on neither side; for if it were it would be not on either side, therefore not on the covered side, therefore not covered, therefore on the uncovered side. It is not partly on one side and partly on the other, because it has no width. Hence, it is wholly on both sides, or both covered and not covered.
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> The solution of this is, that we have supposed a part too narrow to be partly uncovered and partly covered; that is to say, a part which has no parts in a continuous surface, which by definition has no such parts. The reasoning, therefore, simply serves to reduce this supposition to an absurdity.
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> It may be said that there really is such a thing as a line. If a shadow falls on a surface, there really is a division between the light and the darkness. That is true. But it does not follow that because we attach a definite meaning to the part of a surface being covered, therefore we know what we mean when we say that a line is covered. We may define a covered line as one which separates two surfaces both of which are covered, or as one which separates two surfaces *either* of which is covered. In the former case, the line under the edge is uncovered; in the latter case, it is covered. [Peirce 1869 p199].

There is some sense in the notion that we have a definite region in front of us - that is, the portion of the surface which is covered. But the edges or borderline between the uncovered and covered part is indeterminate. There is no actual finite point at which one begins and the other ends. Although we have a definite quality in one sense - the covered part - not all indeterminateness is lost. It is the same with the line on the surface of the blackboard. There is a definite sense in which we say there is a line, but the line has not lost all of the indeterminateness of the blackboard. Thus we have (relative) individuality, whilst still having a degree of continuity.

So what is the difference between possibility and actuality? We must not say, if we are to take Peirce's synechism seriously, that the difference is between the indeterminate and the determinate. In other words, we must not claim that actual things are determinate, while possibility is indeterminate. The difference between actuality and

possibility is between "continua of different dimensionalities" [Raposa 1989 p46]. The blackboard represents the absolute dimensionlessness of pure possibility. The two-dimensional line breaks this non-dimensionality. It is a thing, but continuity has not been lost entirely. It is still joined, so to speak, to the original blackboard by the non-discrete nature of its edge and the continuous nature of its length.

Let us turn to a short evaluation of Peirce's position. I think Peirce's insistence that indeterminateness applies to actuality as well as possibility is misplaced. I certainly agree that the precise edges of things are often difficult to find, that there is a certain vagueness in an edge or borderline. But I think this kind of indeterminateness is of a wholly different kind from the kind of indeterminateness that is characteristic of possibility. Certainly, as we have seen, there is at least a trajectory of Peirce's thought that sees continua, not so much as containing blurred 'individuals', but as containing no individuals to which the notion of blurred edges can apply. To put it succintly, in actuality it may be vague whether a particular individual predicate can be applied to a particular individual, but in possibility you do not get any individuals at all. A line is a vague thing, but it is a thing nevertheless.[53] It may be vague whether a particular man is bald or not, but we have an individual nevertheless. He is, so to speak, a blurred individual in respect of his baldness, but *possibility is not composed of individuals in any sense*. It is not the case that if we looked at possibility with more acute discrimination we could find the points from which it is composed - there are no points at all.[54] Again, a line may be a blurred individual in respect of its edges, but there is an

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[53] It seems that Peirce was ready to accept the elimination of the notion of individuality from his philosophy as a consequence of his synechism. See Almeder 1980 p171-174.

[54] Some writers seem to forget this. Richard Creel's otherwise excellent book *Divine Impassibility* seems to suffer from the misapprehension that the crucial characteristic of Peircean continua is that they are composed of an infinite number of members that even God could not peruse. In other words, he seems to think that Peirce's position is that there are an infinite number of individuals on the continuum and because of this infinite number of individuals God cannot exhaustively know these individuals before actualization [p41]. But this is not the truth of Peirce's position. We have to be clear which notion of infinity Creel is attributing to Peirce. Creel says that even an infinite number of individuals cannot exhaust the continuum "because in between any two of them there would be an infinite number of others." This is true, but Creel does not mention that the notion of infinity that Peirce is working with is not the infinite quantity of the natural numbers whose ordinal number is ω and whose cardinal number is $\aleph_0$, but the altogether different higher order of infinity which is far bigger than the set of natural numbers. As we have seen, Peirce thought that a continuum was of an order of

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entity there that can be individuated even if in a rough and fairly imprecise manner. To anticipate the notions that we will explore in the next chapter, actual individuals can be *vague*, but they cannot be of the nature of continua - that is, they cannot be *indeterminate*.

Another reason for rejecting Peirce's total synechism of both possibility and actuality is that it threatens the distinction between the two. Most modern modal thinkers blur the distinction by claiming that both possibility and actuality are determinate. But Peirce's notions threaten to blur the difference as well, but this time in the opposite way - he says both are indeterminate. It seems to me that a clear distinction between the possible and the actual is needed. In theology we need it to preserve the doctrine of *creatio ex nihilo* from becoming an exercise in the duplication of preexistent individuals - the idea of God as the great photocopier. We, also, need it to preserve novelty, spontaneity and the miraculous nature of creation. In philosophy we need it in order to preserve what must surely be kept distinct. The possible son I never had is of a wholly different kind from the real daughters that exist. If we say that the possible son I never had really exists in a kind of determinate fashion the type of questions Quine makes arise (p32). How many possible sons are there? Are there two? Ten? Infinitely many? How are we to stop our ontology from turning into a slum? These question appear unanswerable. Again, however, we must wait until the next chapter for a fuller inspection of these issues. There we will look more closely at the difference between blurred individuals and lack of individuality.

I think, then, that Peirce was wrong to insist that synechism should be applied to actuality as well as possibility. Reality is determinate in that it consists of individuals (maybe blurred ones in some cases - rivers perhaps). Possibility, on the other hand, is not determinate since there are no individuals in continua (even blurred ones). In the

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numerical magnitude so high that it was what Cantor called the true infinite - Absolute Infinity or Ω, which to Cantor's mind was beyond mathematical determination (see Hallett 1984 Chapter 1.4). Thus it is clear that for Peirce *there are not an infinite number of individuals on the continuum*. There is not even one individual on the continuum: a continuum is a different order of thing altogether. It is not a mere mereological accumulation of an infinite number of members, which is certainly, as Cantor himself showed, susceptible to mathematical analysis.

next section of this chapter, we shall see that Hartshorne agrees that Peirce was over eager to apply synechism to actuality.

Hartshorne's Development of Peirce's Philosophy

Charles Hartshorne, along with Paul Weiss, was the editor of the *Collected Papers of Charles Peirce* and is, therefore, one of those most qualified to know Peirce's philosophy. Hartshorne was deeply influenced by his thought and applied Peirce's understanding of the metaphysics of possibility to the doctrine of creation. Although influenced by Peirce, he did not slavishly follow all of Peirce's ideas. He agreed with Peirce's continuum analysis of possibility, but, as I have just mentioned, did not think that continuity could be applied to the actual world in any illuminating manner:

> Peirce's greatest single mistake was his 'Synechism', which consisted in trying to make continuity the key principle in every relationship, both of *actuality and possibility*. [Hartshorne 1964 p467. My italics].

Hartshorne took the Peircean analysis of possibility in a theological direction.[55] He thought that if we accepted the continuum analysis of possibility it would have profound consequences for our understanding of God's creation of the world. In this section, we shall look at this. We shall find much in Hartshorne that is very useful and challenging. However, this analysis of Hartshorne's philosophy must not be taken as a wholesale defence of his views. Hartshorne, for example, thinks that the doctrine of *creatio ex nihilo* is just part of the classical theological heritage that ought to be jettisoned, whereas this thesis tries to show how we can save the doctrine from being weakened by a wrong-headed philosophy of modality. This thesis tries to defend the doctrine. Hartshorne thinks it ought to be rejected. We are looking at Hartshorne's philosophy, not because I think we have to accept his whole understanding of philosophy, but because it has *consonances* with the kind of position that I am trying to develop. We can, I think, accept some of Hartshorne's philosophical theology without having to accept the whole package.[56]

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[55] For brevity's sake I have ignored Peirce's theological musings - his views of God seem fairly fluid and rather chaotic. See Orange 1984 for a survey of Peirce's ideas of God as well as Raposa's book [Raposa 1989].

[56] My position is, therefore, similar to William Alston's [1984]. He accepts some of Hartshorne's contentions, while rejecting others. As Alston comments, Hartshorne implies this cannot be accomplished such is the logical unity of his thinking [see p122].

First of all, let us establish that Hartshorne does, indeed, accept the Peircean view of possibility. Hartshorne says that God cannot know before actualization the precise qualities a particular individual will have because, before actualization, the qualities that individual will have are of the nature of continua and thereby lack discrete form. Hartshorne sees particular qualities not as eternal objects waiting for instantiation, but as genuine emergents, something genuinely new, even for God:

> My view is the Peircean one, obscure and difficult as it may be, that all specific qualities, i.e., those of which there can be negative instances in experience, are emergent, and that only the metaphysical universals are eternal, something like Peirce's Firstness, Secondness and Thirdness. I do not believe that a determinate colour is something haunting reality from all eternity, as it were, begging for instantiation, nor that God primordially envisages a complete set of such qualities. [Hartshorne 1970 p59]

Hartshorne uses an example from Bergson to illustrate his point. Before an apple is cut in half, does the quality of the apple's being cut in half exist as a determinate possibility, as something clear and distinct in the realm of possibility? Hartshorne's answer is no; there is the general possibility of the apple being "somehow" cut in half, but its actual subsequent halfness is something that does not precede its actualization even *sub ratione possibilitatis* (to put it in Leibnizean terms). But it was either true or false that the apple would be in this actual cut state before it happened, the objector might interpolate. No, replies Hartshorne, for to apply the law of excluded middle is to suppose erroneously that preceding the actual apple's being cut, there is a determinate possibility to which the law of excluded middle applies. As Hartshorne puts it,

> ...the law of excluded middle lacks valid application. If there was no such and such, there was neither a possible nor an impossible such and such. To reiterate, possibilities are determinables not determinates. The apple can be halved somehow, but to suppose that the determinate how that subsequently results is included in the somehow is just to deny the distinction, determinable-determinate... [1970 p65].

Thus Hartshorne accepts Peirce's notion that the law of excluded middle has limited application. Peirce says that possibility does not contain individuals and it is only to individuals that the law of excluded middle can apply. Hartshorne seems to be saying something very similar, although he puts it slightly differently. Here he uses a distinction between what he calls 'the determinable' and 'the determinate'. Because the determinable is not a "such and such" it can neither be true that it is possible, nor true that it is not possible. There will only be a "such and such" when we have an actual

determinate entity in actuality. I will take it that Hartshorne is basically just saying the same thing as Peirce here about the reasons why the law of excluded middle does not apply to possibility. Possibility does not contain the individuals to which the law could apply.

Hartshorne illuminates his reasons why the law of excluded middle does not apply to possibility in another piece of writing:

> To argue that it must be eternally true that red is red and not blue, and hence red itself must be eternal, is merely to beg the question. Of course it can never have been false that red is red, but if red is an emergent in the universe, then before this emergence it was neither true nor false that red was red - or anything else...The proposition red is red can never have had anything but a positive truth value; but if there once was a time when there was no such proposition, then at that time 'it' could have no truth-value, or any other property whatever, for there was no such it. [1972 p32].

The argument changes its stress here towards the idea of the truth of propositions. An objector to Hartshorne might say that either one of the following is true of red before there are any instances of the colour - "red is a colour" or "red is not a colour". Hartshorne is saying that such an objection begs the question for it is his position that before red came into existence there was no individual property 'red' to serve as the referent of a truthful proposition.[57]

The idea that the law of excluded middle does not apply to possibility is not just an eccentric or idiosyncratic view of Peirce and Hartshorne. Gilbert Ryle, in his book, *Dilemmas* says the same thing:

> After 1815 there could be true and false statements mentioning the Battle of Waterloo in the past tense. After 1900 there could be true and false statements in the present and past tense mentioning me. But before 1815 and 1900 there could not be true or false statements giving individual mention to the Battle of Waterloo or to me, and this not just because our names had not yet been given, nor yet just because no one happened to be well enough equipped to predict the future in very great detail, but for some more abstruse reason. The prediction of an event can, in principle, be as specific as you please. It does not

[57] Bergson says of the idea that we can talk of things as possibles before they exist: "Things and events happen at certain moments; the judgement which determines the occurrence of the thing or the event can only come after them; it therefore has its date. But this date at once fades away, in virtue of the principle deep-rooted in our intellect, that truth is eternal...As though a judgement could have pre-existed the terms which make it up! As though those terms did not date from the appearance of the objects they represent!" [Bergson 1946 p22]

matter if in fact no forecaster could know or reasonably believe his prediction to be true. But one thing he could not do - logically and not merely epistemologically could not do. He could not get the future events themselves for the heroes or heroines of his story, since while it is still an askable question whether or not a battle will be fought at Waterloo in 1815, he cannot use with their normal force the phrase 'the Battle of Waterloo' or the pronoun 'it'. While it is still an askable question whether my parents will have a fourth son, he cannot use as a name the name 'Gilbert Ryle' or use as a pronoun designating their fourth son the pronoun 'he'. Roughly, statements in the future tense cannot convey singular, but only general propositions, where statements in the present and past tense can convey both. More strictly, a statement to the effect that something will exist or happen is, in so far, a general statement. When I predict the next eclipse of the moon, I have indeed got the moon to make statements about, but I have not got her next eclipse to make statements about. [Ryle 1954 p27]

Ryle here is highlighting the logical impossibility of naming the non-existent or the merely possible. There is simply nothing to hook our names onto. This, of course, is a difficulty that Ruth Barcan Marcus has already highlighted. Recall that in chapter two, we saw that Marcus said that possible items could not made be made the objects of reference. I quote Marcus again:

Until Neptune was discovered, that use of the proper name Neptune was not a referring use...In Russellian terms Neptune is not a constituent of the proposition nor is the statement *about* Neptune after the fact...It seems harmless in formal semantics to speak of assigning an object from this world or any other world to a variable or a name. But we are in the actual world, users of our actual language. The object must be given in actuality for something like ostension to occur and for the name to refer. Proper naming as opposed to describing defines a special basic relation between a word and a thing in a linguistic institution. Naming relates a word introduced into an actual language in the actual world to a thing that is there to be encountered in the world when the event of naming occurs. Acts of naming are acts of actual language users. A possible object is not there to be assigned a name. [Marcus 1985 p207 Italics in original.]

Presumably, Marcus would agree with Peirce and Hartshorne about the inapplicability of the law of excluded middle to possibility. This is not because there are possible items to which the law of excluded middle fails to apply, but because there are no possible items to which it could apply. There is no 'failure', so to speak, of the law, just a lack of items for reference to take place.

A similar point is made by Hartshorne in reply to an argument that claims that God's omniscience is impugned by an acceptance of the Peircean metaphysic of possibility. The argument goes something like this: If possible Adams and Eves and Gardens of

Eden exist as determinate possibilities, God can know them as determinate. He can scrutinize them and consider whether or not they are worthy of actualization. God's omniscience 'ranges' over the possible. That is to say, possible items are there in his understanding and are therefore objects of His knowledge. A believer in the indeterminateness of possibility, on the other hand, seems to be saying that God's knowledge does not cover the possible. He cannot consider a possible Adam or a possible Eve. God's knowledge is, therefore, *diminished* in this understanding of possibility. For a Leibnizean, God knows the possible as well as the actual. For a Hartshornian, however, He only knows the actual. Hartshorne insists, against this kind of argument, that there is no limitation thrust onto God's omnipotence by the acceptance that possibility is indeterminate. It is not that there are possible items that God does not know - that somehow His omnipotence does not cover - rather it is the case that God's omniscience sees things as they really are. God, at all times, knows all there is to know; there is no corner of reality that escapes the full attention and cognizance of the Divine. But possible things are not there to be known. Only when we have an actual X is it the case that we have a discrete individual that can be known as such. Before that it was not there. Another quotation might yield more insight into Hartshorne's position:

> ...a very large class of modern philosophers reject the idea of eternal, and eternally knowable, possibilities except in extremely abstract forms such as mathematical possibilities, infinitely less particular than the fullness of concrete reality. As Peirce and Bergson vividly saw, actualization is particularization. Becoming is creation, production of new definiteness, not of exact duplicates of definiteness already and eternally in being...The issue is not as to whether God knows all possibilities. I hold that the divine knowledge is all-inclusive, knowing actualities as actualities and possibilities as possibilities [Quoted in Creel 1986 p41].

So God knows all that there is to know. He knows that the true nature of actuality is its individuality, its discreteness. He knows the true nature of possibility, which is its indeterminateness.

Creel's position is interesting here because he says he accepts the continuum analysis of possibility, but nevertheless wants to maintain that God still knows possibility as discrete and distinct [p40-44]. However, Creel seems to be labouring under the misapprehension that there are individuals on the continuum, but that they cannot be

known by God because of their infinite multiplicity.[58] This leads him to the idea that the continuum taken as a whole is just the same kind of thing as its parts. He uses this to "make plausible how God can know all possibilities in the traditional sense [i.e. as discrete and distinct]" [p43]. He asks us to imagine a hinged stick of equal length with an elastic band at the unhinged end. If we open this out, the elastic stretches and "we will in the process have circumscribed the angularity of every possible isosceles triangle." He adds, " I submit that, when we realize this, we will have understood what a Euclidean isosceles triangle is because we will have comprehended it as a continuum of possibilities." [p.43]. Creel thinks that this analogy shows that "we know all there is to know about the possible relations among the angles of isosceles triangles. No isosceles triangle can henceforth come into existence the angularity of which could surprise us." [p44]. But the analogy does not work. The continuum analysis of possibility implies that the continuum or universal is a different kind of entity from its realized individuals. An infinite number of individuals does not accumulate together to form a continuum.

It is, of course, very easy to fall into the kind of error that Creel does. Peirce's own talk of supermultitudinous collections of collections of individuals being so super-numerous that they weld together suggests an individuality that was once there, but was somehow lost due to superabundance. It seems to me, however, that there is a strong case for saying that Peirce only talks of collections of individuals in order to reject the idea that individuality is correctly attributable to any continuum. That is to say, Peirce is saying that the notion of individuality cannot cope with the continuity or 'smoothness' that is demanded by a continuum. The notion of welding or merging together seems to me to be merely a *façons de parler*.[59] It is not the case, therefore, that God's omniscience is somehow confounded by a hidden individuality beneath the surface of a continuum. A continuum is continuous through and through and this is the nature that God fully knows. Hartshorne insists, then, that God's omniscience is not compromised by an acceptance of the continuum analysis of possibility - He still knows all that it is logically possible to know. This does not mean, however, that an acceptance of Peirce

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[58] See note 54.

[59] John Bell in his lecture, 'Dissenting Voices' [see note 44] argues that Peirce's supernumerous collections are a kind of half way position between the notion that the continuum has no points and the notion that it is made up from points. I can see why Bell would say this, but contend that there is at least a trajectory in Peirce's ideas that directs us towards the idea that the continuum is entirely memberless. Bell's lecture came to my attention too late for a detailed examination of his ideas.

and Hartshorne's ideas has no consequences. It has very serious consequences for our understanding of providence, but we will have to wait until chapter eight before we look at that in any detail.

Another important strand to Hartshorne's metaphysic of possibility is its commitment to the notion that qualities are, in some sense, unrepeatable particulars. Thus the white of this page is something that is never repeated. Hartshorne says,

> Something like this blue can occur over and over, but not precisely this blue. Particular qualities in their absolute definiteness are irreducibly relational and historical. The illusion to the contrary comes from forgetting that inability to detect a difference is not the same as the ability to detect absolute similarity. If we were divine, it would be otherwise. But I assume that God knows all non-abstract or wholly determinate qualities of particulars to be unrepeatable. [1970 p64]

This means that when God has instantiated a particular shade of red, it is a new thing. It may look identical to another shade of red, but to God it is a genuinely new thing that has never existed before.

However we must pause here because Hartshorne does not seem to be distinguishing between two different interpretations of the idea of new instances of red coming into existence. Is he saying that no two shades of red are ever *qualitatively* identical and, therefore, cannot ever be the same? Or is he aligning himself what philosophers call tropism which maintains that each red thing is an individual quality which is never *quantitatively* identical with any other instance of red.[60] Hartshorne does, in this context, mention G. F. Stout who is a tropist so it would seem that he is maintaining the latter view. But the quotation above would seem to tell a different story.[61]

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[60] The difference between qualitative and quantitative identity is as follows: imagine a factory making footballs. It makes one hundred identical footballs a day. In which sense are they identical? They are *qualitatively* identical since they are the same shape, size, colour...etc., but they are not *quantitatively* identical because there are one hundred numerically different balls.

[61] It is, also, not clear what reasons Hartshorne would give for the idea that each instance of a quality is qualitatively non-identical. Perhaps he thinks they are unrepeatable because an exact duplication of a cutting into the continuum of possibility is impossible. Be that as it may, Hartshorne's assumption is that God knows all qualities of particulars to be unrepeatable.

In tropist theory, it might very well be the case that we get an exact duplication of a property in terms of qualitative identity. We might very well find that two shades of red are identical. We might even get God's assurance that they have, say, exactly the same wavelength. But the tropist would insist that we still have two quantitatively non-identical instances (or tropes) of red. Indeed, Stout clearly says that the numerical difference between two tropes does not needed to be grounded on qualitative difference [1923 p114]. Thus, for the tropist, properties or qualities of objects are themselves particular, unrepeatable individuals [see Armstrong 1989 chapter 6, Macdonald 1998 chapter 24 and Loux 1998 p79-89 for a overview of trope theory].

To which one of these two positions is Hartshorne committing himself? It is important to be clear which, since there would be a difference in what God could be said to be learning as new qualities came into existence. In the first theory, God is really meeting qualitatively different properties. Each new shade of red is subtly different to any one that came before and thus God sees for the first time its quality of red. In the second theory, a new shade of red would be a genuinely different, unrepeatable particular but it could be qualitatively identical to many other shades of red. Thus God's knowledge in the second view is modified to the extent that He realizes that there are a different number of tropes of red in the world. I think that, despite Hartshorne's mention of Stout, the spirit of his remarks are more in keeping with the first interpretation. He is clearer (although he still mentions Stout) in an essay on the philosophy of Whitehead:

> When we think that two objects have or can have the same hue of colour, we are thinking in terms of approximation; the idea that the two are ever exactly the same is either a sheer assumption or it presupposes as its verification an absoluteness of qualitative comparison which itself is a sheer assumption, controverted by much significant evidence. [1972 p 33].

So we will take it as a given that for Hartshorne it is the case that no two shades of white (or whatever) are ever actually qualitatively identical. (In the above quotation, Hartshorne seems to be saying that the justification for this doctrine is empirical. However, I must confess that I do not know what 'significant evidence' he is alluding to.)

Mathematics and Indeterminateness

Now we arrive at a very important clarification of Hartshorne's position. As we have seen, he argues that properties such as red have no eternal duplicate. When a shade of red appears it was the first time *that* shade ever existed as a determinate quality. However, Hartshorne thinks that certain mathematical objects or entities are eternal. They always exist in the mind of God. For example he says,

> But at any rate I see no good ground at all for supposing that, *beside numbers or similarly abstract entities, including metaphysical categories*, every quality of sensation or feeling that occurs in experience must have its eternal duplicate. Feeling as such, quality as such, yes, but not red, sweet, as determinate qualities identical with those we enjoy in experience. Feeling is a determinable of infinite range, not a vast sum of determinates. As Peirce held, possible qualities of feeling form a continuum without definite parts. [Hartshorne 1970 p65-66 My emphasis].

Even more emphatically he says,

> I see reason to say that the infinity of whole numbers must be included in the necessary aspect of deity...It seems that God must eternally have been aware of an infinite number of *already actualized* entities. [1970 p65. My italics.].

However, Hartshorne does not appear consistent about this point. In these quotations he is saying that numbers have always existed or are actual. They are eternal. There are, if you like, no possible numbers, just actual ones. In other parts of his writing, however, he seems to be saying something different. Occasionally, he says that certain mathmematical *possibilities* are eternal. In part of a passage quoted earlier he says,

> ...a very large class of modern philosophers reject the idea of eternal, and eternally knowable, possibilities except in extremely abstract forms such as *mathematical possibilities*, infinitely less particular than the fullness of concrete reality. [My italics]

Now are numbers actual or possible? What about other mathematical entities like triangles or lines? Are they possible objects or eternal actual objects? Are some mathematical objects like the natural numbers always actual, but others like the infinite decimal expansion of pi only possible? In other words, do some possible things defy continuum analysis and exist as determinate, but nevertheless still only possible entities? Or are all mathematical objects actually existent and for that reason

determinate? These are very difficult questions. In many ways, it would be a lot neater to say that *all* mathematical entities are actual because this would make the distinction between the actual and the possible a lot more clear-cut. We would not have some putative entities crossing the crucial ontological divide between the possible-and-indeterminate and the actual-and-determinate. We would not have a third class of things which were possible-and-determinate. It, also, goes against explicit pronouncements of Hartshorne where he says that the actual/possible divide is co-extensive with the determinate/indeterminate divide.[62] That is to say that all mathematical entities enjoy determinate actuality in God's understanding.[63] A slightly messier way of thinking might be that some mathematical entities (say the natural numbers) are actual, while other parts of mathematics (say the irrationals) are only possible and are therefore indeterminate. So, for example, we could say that irrational reals are only possible: they are indeterminate because their infinite decimal expansion is somehow always only potential. The problem with this line of thinking is that it seems to compromise God's omniscience. Surely there is a definite way forward for each further place of the decimal expansion of pi. And if there is, surely God knows it.[64] Maintaining that some parts of mathematics are possible seems to suggest that somehow determinate answers to mathematical questions are hidden along a continuum and yet, as we have already argued, we want to deny the whole notion that somehow continua contain hidden individuals. Individuality and continua are mutually exclusive categories.

I propose, therefore, that we say all mathematical entities are actual. There is no such thing as a possible thing even in the realm of mathematics. I take it that this proposal is just a strong form of mathematical platonism. My thesis is being realistic about the existence of mathematics. God knows all the mathematics there is to know. He knows it

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[62] He says, "I take the contrasts universal-particular and possible-actual to be coincident." [1970 p61]

[63] There would be a difficulty here for Aquinas. According to him, only God is actually infinite [*Summa Theologica* 1, 7, 1-8). He says that putative mathematical entities such as the infinite decimal expansion of pi are only potentially infinite. There is no actual infinite decimal expansion of pi. The best pi can achieve is to be potential. It cannot be given all at once even for God. It seems to me that this compromises God's omniscience and omnipotence.

[64] In the *City of God* Augustine says of the infinity of numbers, "Does God's knowledge extend as far as a certain sum, and end there? No one would be insane enough to say that." [Book XII, Chapter 19. Quoted and discussed by Hallett 1984 p35-36] This was a favourite passage of Cantor's.

as actual and determinate. When our finite minds explore the world of mathematics we are exploring the determinate conceptions of God. I am not sure, however, whether Hartshorne would agree with all the ideas I have sketched here. I think he would be of the opinion that it does not really matter whether we accept that mathematical objects can exist as possibilities - what is important to him is that the ordinary experiential predicates such as "is sweet", "is red", "is too noisy" do not exist as eternal determinate duplicates in the mind of God. I have proposed a different line of thought in order to keep the possible-indeterminate and the actual-determinate distinction as neat and as simple as possible.

In the next chapter we will try to make the notion of a continuum clearer. We will look at the modern philosophical preoccupation with the logic of vagueness. By placing the notion of the continuum in a more familiar setting, we might be in a better position to understand it and appreciate its radical nature.

Chapter Four

Vagueness and the Indeterminateness of Possibility

This chapter tries to clarify the notion of the continuum analysis of the nature of possibility through a consideration of the concept of vagueness in recent philosophical logic. Peirce's and Hartshorne's views are difficult - to place them within a more familiar geography might help to show what they are saying. First I will outline the usual understanding of vagueness in modern logic. Second, I will try to compare and contrast the continuum idea of indeterminateness with modern logic's understanding of vagueness. We will find that, despite certain similarities, the notion of the continuum as it is being developed in this thesis is far more radical than the idea of vagueness.

The notion of vagueness is usually introduced through a contemplation of the nature of heaps. The paradox of the heap - or sorites paradox[65] - claims that our commonsense intuitions about heaps do not square with rigorous logic. Somehow something is wrong with our notion of heaps. Let us briefly outline the nature of the paradox: let us imagine there is a heap of sand. Taking away one grain could not, of course, make the heap into a non-heap. As Mark Sainsbury puts it, "If two collections of grains of sand differ just by one grain, then both or neither are heaps."[66] This apparently innocuous principle seems to show by sound and acceptable logic that even a single grain of sand is a heap. The argument proceeds as follows:

A collection of grains of 10, 000 is a heap

One grain fewer (10,000 - 1) is a heap (i.e., one grain cannot change a heap into a non-heap)

Therefore 9,999 grains is a heap.

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[65] From the Greek *soros* for heap.

[66] Sainsbury 1995 p23.

Repeated applications of this piece of reasoning leads to the absurd conclusion that one grain is a heap.[67] There is nothing particularly special about heaps in this respect. The argument can be generalized to show that all people, no matter how short, are tall; that all men, no matter how hairless, are not bald; that all men, no matter how bulky are thin. All kinds of predicate seem to be subject to this kind of argumentation and lead to paradoxical and unacceptable conclusions.

The problem seems to be that the notions of heaphood, baldness and thinness and the such like are vague. There seems to be no clear-cut off point or boundary in the application of the vague predicate. If we have a line of men whose heights differ by, say a millimetre, there seems to be no clear boundary between the application of tall and short.

This blurred boundary notion of vagueness is usually distinguished from other related notions. For example, the notion of non-specifity is usually seen as a different concept from the notion of vagueness as it is understood in the relevant literature.[68] If I say that Donald's height is somewhere between six feet and five feet, I am being non-specific, but I am not being vague. A wide range of heights satisfies the predicate "between six feet and five feet", but there is a clear cut-off point or boundary. If Donald is taller than six feet, then, the predicate is clearly non-applicable. I am being non-specific, but I am not being vague since there is no vague boundary implied by the predicate.

Similarly the notion of vagueness is distinguished from ambiguity.[69] If I say that Tom went to the bank this morning you may not be clear as to what I mean. Did Tom go to withdraw some money or was he fishing by the river? In cases of ambiguity the lack of clarity can be eliminated by further exactness as to what is being claimed. One could elucidate further and say that you meant that Tom was withdrawing money from his account. But with vagueness it seems that no further examination of the relevent vague predicate can eliminate its blurred nature. I may know Donald's height to the nanometre, but still be unable to tell you whether he is tall or not. Vagueness is, then,

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[67] In fact, it leads to the paradoxical conclusion that no grains is a heap.
[68] See Williamson 1994 p47. Williamson's book is the definitive work on vagueness and is the source of most of what I have to say about the concept.
[69] See Sainsbury 1995 p26.

usually understood as the possession of blurred boundaries in the application of a particular concept.

The notion of blurred boundaries can, moreover, be shown to be even more troublesome, since it seems that a blurred boundary is subject to higher orders of vagueness. To see this, let us go back to our line of men differing in height by a millimetre. As we saw, the boundary between the tall and the short is unclear. Some men are clearly tall, others are clearly short. Is it the case, however, that there is a clear boundary between the clear cases and the disputable ones? We go along the line confident at first in our application of the concept of tallness, but is there a clear-cut off point between those men that are clearly tall and those that are disputably tall? The boundary between tall and short is blurred, but so, it appears, is the boundary between clearly tall and unclearly tall. This species of vagueness is called higher order vagueness. There are unclear boundaries, but where the unclear boundary starts also seems to be subject to no clear beginning.[70]

Vagueness is of such pressing philosophical importance since so much of our language is made up of vague words.[71] Sainsbury asks us to consider the following list: "child, toy, happy, clever, few, cloudy...moustache, game..." [1995 p26]. In ordinary discourse, we may well be able to tolerate the vague nature of much of our language - in fact, Peirce argued that vagueness is often a positive trait since it facilitates scientific enquiry.[72] However, most agree that it threatens classical conceptions of logic. Let me briefly try to outline why this is the case.

Classical logic has only two truth values. This is based upon the principle of bivalence, that any proposition is either true or false. In cases of vagueness, this principle seems to be violated. There seems to be no fact of the matter - no truth or falshood in the claim that 76 grains is a heap. When someone points towards 76 grains of sand and says, "There is a heap" do they utter the truth or a falsehood? If there is no fact of the matter as to whether or not the statement is correct, then, the principle of bivalence seems to be

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[70] See Williamson 1994 p156-158 for the consequences of this view.
[71] Indeed, Russell tries to show that all language, all representation of the world, is vague. See Williamson 1994 p53-57. We will pursue this later.
[72] Ibid p46-52.

violated. There seems to be a need for a new third truth value to go alongside true or false, i.e., neither true nor false. Indeed, reflections upon the sorites type paradoxes have been largely the impetus behind non-classical, many valued logic [see chapter 4 Williamson].

Vagueness, then, is a serious matter, but we must be clear at what level the concept applies. One might claim, with Russell, that only language and, in general our representations, of the world are vague, or one might hold that reality and not just our representations of it is vague.

Let us examine the Russellian view first. Russell says,

> Vagueness and precision alike are characteristics which can only belong to a representation, of which language is an example. They have to do with the relation between a representation and that which it represents. Apart from representation, whether cognitive or mechanical, there can be no such thing as vagueness or precision; things are what they are, and there is an end of it. [Russell 1923 p147-148.]

This kind of approach says that the world in itself is sharp with no actual blurred boundaries; there are clear actual boundaries out there in mind-independent reality - it is only when we represent the world in either language or thought or art that vagueness can come in and infect our account.

In similar vein, Gareth Evans puts forward an argument that purports to show that there can be no such things as vague objects - that things cannot be really extra-mentally vague.[73] Evans questions the idea that "the world might contain certain objects about which it is a fact that they have fuzzy boundaries."[74] He starts his argument with "Let '*a*' and '*b*' be singular terms such that the sentence '*a*=*b*' is of indeterminate truth value" and from this tries to derive a contradiction. Informally the proof goes like this. Let it be indeterminate that *a*=*b*. Now if it is indeterminate that *a*=*b*, then there is a property that *b* has in relation to *a*, namely the property of being indeterminately identical with *a*. But

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[73] Williamson argues that Evan's argument does not show - nor was designed to show - that there is no vagueness at all in the world. It has a more limited application: it merely shows that the *identity* relation cannot be vague. It leaves it an open question as to whether there can be other species of real, non-representational vagueness. See Williamson 1994 p253-257. For ease of presentation, I ignore this complication.

[74] See Evans 1978 and Cook 1986 for a reply to the argument.

a is not indeterminately identical with *a*. Thus *b* has a property that *a* has not got, so by Leibniz's law, we can come to the conclusion that *b* cannot be identical with *a* in any sense, which contradicts the assumption.

This insistence that vagueness is only at the level of language or representation can be restated as a commitment to the notion that vagueness can only be *de dicto*, but not *de re*. Just as Quine asserts that necessity is always a matter of how we use words and believes only in *de dicto* necessity, so also, Russell and Evans are committed only to *de dicto* vagueness. Vagueness is always a matter of language and the application of representations; it is not a real aspect of the way things are.

Thus Russell and Evans, in this formulation of their position, would accept the following statement:

It is vague whether it is very cloudy (*de dicto*)

but not

It is vague of the weather today that it is very cloudy (*de re*)[75]

In the first statement the predicate 'is vague' attaches itself to the clause "whether it is cloudy". The term "vague", therefore, can be seen to attach itself to some kind of propositional attitude expressing uncertainty. In the second expression the predicate "is vague" attaches to a referential expression pointing to the weather itself.[76]

The alternative to the Russellian view is that the world itself is vague and not just our representations of it. The word "mountain" is a vague word since it is unclear whether or not it applies to the smaller hills of the Brecon Beacons. But are mountains - the extra-linguistic objects - vague? The vagueness of the word "mountain" could be arbitrarily removed by some kind of stipulation. We could just decide to use the word

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[75] See Williamson p259-262 for more technical detail of the distinction between *de re* and *de dicto*.

[76] Williamson uses the following example (p261). We dig up a brontosaurus unaware that it is the last one of its kind to die. We know of the last brontosaurus that it died here (*de re*), but we do not know that the last dinosaur died here (*de dicto*).

only to refer to hills of a certain steepness and height. We could just decide where we will begin to talk of mountains - we could walk along in the hills and taking the next step declare, "Now we're on the mountain." If, however, mountains themselves are (extra-linguistically) vague, no amount of re-representation of the word will extinguish the mountain's blurred nature. Think of rivers. Is it just our use of words that explains our difficulty in saying just where a river ends as it runs into the sea, or is it something to do with the nature of being a river? Believers in this type of vagueness would, of course, accept that *de re* ascriptions of vagueness could be true. They would say that one could believe truly *of* a river or mountain that it was vague.

Let us now turn to looking at how these speculations about the nature of vagueness connect with the continuum analysis of possibility given by Peirce and developed by Hartshorne. Let us first consider the defining characteristic of vagueness - the idea that vaguness has to do with blurred boundaries.

It does not seem to me that the notion of blurred boundaries is a useful one when it comes to the notion of continua, although it is easy to see why it could be seen to be so. As we saw in chapter three, Peirce often uses the metaphor of welding in his explication of the concept of a continuum. He suggest a kind of packing metaphor - as if individuals are so tightly crammed together that they somehow merge - they fuse or melt together, so to speak, because of the incalculable pressure of numbers. This kind of metaphor would suggest that there are members on a continuum which have somehow become fused together. In this understanding, because of the fused nature of a continuum's parts, it is difficult or impossible to distinguish between its members. Now it is easy to see why the modern concept of vagueness might seem applicable to this understanding of the Peircean analysis. The metaphor of welding or fusion seems to imply that there are members on a continuum, but somehow their discreteness has become lost. We just have difficulty in saying where one starts and another begins. So there are members in a continuum under this understanding, but they are blurred. If we could look at a continuum with a very precise microscope we would still find it hard to discriminate precisely where one member became another. Nevertheless, there are still members or individuals despite the vagueness of their boundaries.

This misreading of Peirce is strengthened by the use of colours and the colour spectrum in the analysis of the nature of a continuum. The idea is that a continuum is like the colour spectrum. If we look at a colour spectrum it is hard to say at what point one colour becomes another. There are regions which are definitely red and regions which are definitely orange, but to locate precisely where one becomes another is a seemingly impossible task. Because in this metaphor there are definite shades which merge into one another, it is easy to see why the modern notion of vagueness with its talk of blurred boundaries seems appropriate.

However, as I say, I think this is a misreading of Peirce's notion of a continuum. His metaphor of welding does suggest a kind of merged membership or a collection of non-discrete members, but a more careful reading of Peirce, is as we examined in chapter three, leads away from the notion of membership at all - discrete or non-discrete. The point of the metaphor of welding is not to suggest that continua have a hidden membership beneath the subtle bonding of the elements, it is to deny the notion of membership or individuality in any sense at all. Let us reexamine one of Peirce's explanations of the notion of a continuum to make the point:

> ...the potential aggregate is, with the strictest exactitude, greater in multitude than any possible multitude of individuals. *But being a potential aggregate only, it does not contain any individuals at all. It only contains general conditions which permit the determination of individuals.* [CP 6.185]. (My Italics)

Peirce wants to insist that the notion of individuality does not do justice to the 'smooth' nature of the continuum. The point of the welding metaphor that he sometimes uses is to deny individuality, not to claim it is hidden beneath the surface. It seems to me, therefore, that the notion of vagueness as blurred boundaries does not really apply to a continuum in Peirce's sense of the word. There are no boundaries on a continuum because a boundary, in the sense suggested, implies regions on the continuum that are boundaries and some that are not. But there are no regions on a continuum because there is absolutely no individuality at all. To turn to the notion that continuum analysis offers a way of understanding possibility, we can say that individuality, discreteness, membership belong to actuality, not to possibility, which by its nature, implies a thorough-going indeterminateness. Thus the most one can say, if one were to adopt the language of blurriness, is to claim that continua are blurred through and through. The

adjective 'blurred' does not apply to the points of a continuum (there are none) it is primitively applied to the whole.

What are we to say, however, about the distinction between *de dicto* and *de re* as applied to the indeterminateness of possibility under continuum analysis? We have accepted that vagueness is not the correct term to use in the analysis of continua, but it seems a proper question to ask whether or not the non-individual indeterminateness of possibility applies at the level of representation or at the level of reality. It seems to me obvious, given the analysis we have pursued, that the indeterminate nature of possibility cannot be in our representation of it, but in reality as well. Remember that we are not talking only of finite thinking about the nature of possibility, but about God's thinking about possibility. In chapter three, we argued that God is ignorant of nothing, that His omniscience is not confounded by hidden members lurking in possibility, but that He knows it as it truly is. It seems, given this, that we can state that God knows truly of possibility that it is indeterminate (*de re*). Therefore, for God to believe of possibility that it is determinate would not be true belief, but error.

To put it another way, there must be a kind of equivalence thesis when it comes to God's knowledge of X and its actual *de re* nature. Anything else would surely be to undermine the concept of God's omniscience. It would offer a way of separating off God's propositional knowledge from the actual things He knows.[77]

At this point let us turn our attention to a particularly interesting analysis of the notion of vagueness since some of the arguments could be seen to contradict the idea that there could be *de re* indeterminacy. It is argued by Williamson that vagueness is an epistemic phenomenon - more specifically, it is the result of our ignorance. There is he argues, as a matter of extra-mental fact, an actual cut-off point at which a heap becomes a non-heap. Contrary to intuition, removing one grain does make a heap into a non-heap; it is just that we do not know where this line is to be drawn. Similarly there is a point at which a tall man becomes a short one or when a cloudy day becomes a very cloudy day.

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[77] William Alston disputes whether God has propositional knowledge. Citing Aquinas, he argues that God's knowledge of the world cannot be separated into propositional parcels; rather God knows everything by direct access in one single non-propositional vision. I will not pursue this line of thinking here. However, I have some sympathy with Alston's analysis, because it makes God's access to the world an unmediated one unimpeded by the representations that propositions provide. See Alston 1985.

Williamson is well aware of the unintuitive nature of his thesis, but prefers the unintuitive to the prospects for classical logic if vagueness is to be allowed as a real feature of the world.

Part of the reason for the unintuitive nature of the epistemic thesis is that there seems nothing hidden in cases of vagueness. In the case of heaps it is not as if we cannot know all the relevant physical details of the nature of disputed collection of sand. If we were cognitively limited to a number system that did not go beyond, say twenty, it would be much more tempting to elucidate vagueness in terms of ignorance, but this is, of course, not the case. We can count the grains. We can measure their sizes and shapes. Of what, given the open nature of heaps, are we ignorant? Williamson says in reply that this is obvious, we are ignorant as to whether or not this collection of sand is a heap or not [1994 p202].

The epistemic view implies that vagueness is only representational.[78] There is a fact of the matter as to the heaphood of a collection of sand. The actual collection is either a heap or a non-heap. In reality there is no blurred boundary. The blurred nature is the product of our ignorance - it is a mind-dependent phenomenon, perhaps, resulting from cognitive or perceptual limitations. Vagueness, then, according to this line of thought, is *de dicto* - it is do with representation. One cannot believe truly *of* a heap that it is vague, although one can believe truly *that* a heap is vague. The latter expression expresses no more than our cognitive apparatus is limited or that our use of words is a vague matter admitting of borderline cases.

Now having clarified Williamson's position, what I want to do is to concentrate on one argument that he uses in order to establish his conclusion about the nature of vagueness since it involves the notion of omniscience. In the case of the vagueness of heaps we have seen that nothing seems to be hidden; there is transparency. If there is nothing hidden it should be "harmless to imagine omniscient speakers ignorant of nothing relevant to borderline cases." [p.199] Williamson argues that on the view that nothing is hidden an omniscient speaker should not be able to say "I don't know" in response to a question regarding the heaphood of a disputable pile of sand. The idea that nothing is

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[78] Sainsbury argues that this is the case [Sainsbury 1995 p47]. However, Williamson does leave room for the idea that some vagueness may be a result of the actual nature of things [See chapter 9].

hidden seems to discount the possibility of an omniscient speaker saying that he does not know. Williamson goes on from there to try to show that it must be the case that all omniscient speakers would stop at the same previously unknown borderline.

Such a view indirectly challenges my view about the nature of God's knowledge of possibility. Although, we have maintained that vagueness is not happily applied to the notion of the indeterminate nature of possibility, there are enough similarities between the two accounts for Williamson's argument to challenge the thesis I am offering. The relevant similarities are as follows: (1) I have maintained that nothing is hidden from God - there are no secret or hidden members on a continuum. The continuum itself is open to God - it does not lie in some obscure region to which He has only limited access. (2) God is a truthful and omniscient speaker. Thus the argument Williamson uses to reject the idea that vagueness is *de re*, seems also to establish that indeterminacy cannot be of the nature of things.

What, then, can be said of Williamson's argument? I think that argument fails since it presumes an account of omniscience that begs the question in favour of the conclusion it is trying to establish. As can be seen, Williamson discounts the possibility that an omniscient speaker will say "I don't know" when asked whether a collection of sand is a heap or not. He does this on the agreed basis that nothing is hidden. It seems to me, however, that the possibility of an omniscient speaker saying "I don't know" cannot be discounted so easily even given the presumption that nothing is hidden. If it is the nature of things to be indeterminate or vague, then, presumably a question about the determinate nature or non-vague nature of that thing, is simply misapplied. It is not as if there is some further truth to be had, somehow lurking beneath the surface and in that sense nothing is hidden. Concentrating on indeterminateness, in the sense put forward by Peirce and developed by Hartshorne, a question about a possible item simply fails to refer. If I ask God, our omniscient and truthful speaker, to tell me about the nature of, say, Adam before he existed, God would be truthful in replying that the purported name 'Adam' simply had no object. I have asked God about nothing, since there is no Adam to which I could refer.

This can be seen if we re-examine Hartshorne's contentions about the time indexed nature of the existence of propositions (p56-57). If I asked God, before the creation of

the world, if red were a colour, the question would simply be meaningless, since it relies on the referring term 'red' which, as yet, has no referent. This idea does not violate the principle of bivalence since it is not the case that we have a proposition that fails to have a truth value; instead we fail to have a proposition at all. We may as well talk nonsense.[79]

I leave this section with some general remarks about the platonic theory of knowledge.[80] For a platonic theory of knowledge, real knowledge is timeless since it relies upon the non-temporal, unchanging nature of the forms. Mere opinion is time-indexed since it relies on the changeable world of particulars for the basis of its claims.[81] However, knowledge (*real* knowledge as opposed to mere opinion) is timeless in that it is ultimately derived from the permanent and unchanging. I can ask a question about the nature of redness since it timelessly exists as a form. It is always there as a guarantor, so to speak, of propositions about it. Naturally, this thesis denies this kind of approach, but there is more agreements with platonically inspired approaches than one would, at first sight, think. According to the Peirce/Hartshorne thesis, there are continua. These are rule governed - from one continuum a colour is bound to arise. But before the continuum is 'sliced' the redness or whatever is not even potential, since there is no pre-existent red in any sense. There are no rednesses beneath the surface; nothing is hidden at all. The Peirce/Hartshorne theory can be seen as an acceptance of the notion that forms (or continua) exist, but a denial that they are properly regarded as pre-existent instances of the properties that they become. There is, if you like, a healthy insistence that universals are ontologically dissimilar to their exemplifications.[82]

Plato thinks that one can know about red by apprehending the relevant form. This is certainly denied by this thesis. Red can only be known when it is a determinate property in the spatio-temporal world. Why? Because that is what red is - a spatio-temporal

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[79] This might answer Williamson's worries about what he sees as the devastating nature of the denial that the principle of bivalence is universally applicable to propositions.
[80] The following is, for brevity's sake, a rather loose description of theories of knowledge derived from Plato.
[81] Nikolas Pappas is particularly clear on this point: 1995 p128-135.
[82] The celebrated Third Man argument(s) explored in *Parmenides* (132a1-b2 and 132d1-133a6) show that there must be a sharp distinction of some kind between a form and that which 'participates' in the form. Redness cannot be red, just as bigness cannot be big. Such contentions just lead to infinite regresses. See Gerson 1990 p40-49 and Melling 1987 chapter 11.

determinate property. To know it as something else is not to know red but to know that something else. Not everything, then, is determinate, not everything is specific. Later in this thesis, I follow a line of thinking that, I hope, will make these ideas more plausible. I will identify continua with capacities. For all I know, I have the capacity to be thrilled by braving the white waters of the Rio Grande, but this capacity is hardly to be understood as a kind of shadowy, but determinate entity that pre-exists its exercise. On this basis, I claim that we know what it is for something to be indeterminate - our capacities are such things. God, I will suggest, has the capacity or power to create. Continua are to be identified, in some way, with divine capacities or powers. They are not separate things outside of God that somehow He must draw upon. He is self-sufficient and need only to draw upon His powers in order to create rationally. God does not need exemplars; He need only draw upon His powers.

Before tackling these issues, I want to show in the next chapter how the idea that possibility is indeterminate might meet its critics. It is hoped that, in looking at possible criticisms, Hartshorne's development of Peirce's ideas will be seen as a rigorous and robust theory, which might tempt assent.

Chapter Five

Knowledge, Possibility and Ockham's Theory of Divine Ideas

In this chapter I want us to look at how a Hartshornian metaphysic of possibility could be developed and elaborated. Much of this elaboration will be in the form of reply to attacks that I think could be mounted against the notion that possibility is indeterminate. After trying to mitigate the implausibilities in the Hartshornian account, we shall move in a more theological direction and look at various proposals which try to explain how God can have knowledge of future things. We shall in particular look at Ockham's ideas. Although ultimately we shall reject his ideas, the motivations behind his theory are remarkably in tune with the motivations which form the basis of this thesis - namely, a desire to keep the nothing of *creatio ex nihilo* as ontologically austere as possible.

Many sentences of English seem to imply that possibility is anything but indeterminate. To see this let me list a few natural sentences that seem to imply that possibility is determinate or in some sense contains nameable individuals:

(A) You could have tea at 6 o'clock tonight.

(B) War is very much a possibility.

(C) There might have been unicorns.

If these possibilities are not in some sense individuals or in some sense nameable then how can we talk about them? To put it another way, how have we established a language that is so good at talking about what is possible if possibility itself is as indeterminate and inimical to individuality as Hartshorne and Peirce seem to think? Here then is one problem that must be sorted out: let us call it the **naming problem**. This is not the problem that it is *difficult* to name possibilities, but that it appears so easy.

Another related problem is the apparent ease with which we can imagine possibilities. I can imagine a horned horse. It gallops gloriously through my imagination. It is not indeterminate - it is an individual thought that, although not complete in the maximal sense, nevertheless possesses a kind of individuality. How am I able to imagine such a possibility if there can be no such entity as a possible thing? Let us call this the **problem of imagined possibilities**.[83]

The imagined possibility problem and the naming problem are related to each other. I will try to show that the way in which we are able to imagine possibilities leads to the illusion that we can name them in a straightforward manner.

It seems to me that it is the determinateness of actual things which informs or is the inspiration of our imaginations. The imagination's work is the conceiving of determinate actual things in alternative combinations and arrangements of form. That is to say, actual things and actual exemplifications of properties stand proxy for the possibilities we imagine (or conceive of).[84] Let us use sentence C as our example. How is it that I can imagine a unicorn? To put it crudely, because I can imagine a horse and a horn and can attach it mentally to a horse's head - I can imagine both of these because they are already actual items. Imagining a unicorn would be much more difficult if I had never seen a horse or horn before or had never grasped the notion of attachment. The strength of the imagined image is dependent upon prior familiarity with its composite elements. In order to appreciate this, focus in on your image of the unicorn and try to imagine, if you can, the precise way in which the cellular structure of the horn combines with the skull of the horse. This is, of course, much more difficult if you are not familiar with how this is achieved in actual horned animals. You might, if you are not an expert on horned animals, try to combine them in imagination by using familiar things as your guide. You might imagine the horn as being similar to grainy sand-like material which filters through and mixes up with a similarly grainy, almost permeable substance - that is, at least, how I am trying to imagine this possibility. It might be the case that an expert on animal anatomy would say she cannot imagine it at all because of

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[83] The argument I develop below could, I think, be suitably modified to apply to the broader notion of conceivability. This distinction between the two is employed by Descartes in *Meditation VI* when he says that we cannot imagine a chiliogon, but that we can conceive of one. For more on the difference between conceivability and imagination see Chalmers 2002 p150-156.

[84] See note above.

what she knows of the actual nature of a horse's skull. To her, horns and the skulls of horses simply cannot combine. What I called a vaguely imagined possibility is to her unimaginable - at least in so far as she is thinking of the actual nature of horses and horns. Knowing the actual nature of things may liberate the imagination to conceive of new ways that things may be combined or it may close off putative possibilities and make them unimaginable. It seems to me that I have shown the way in which our imaginings of so-called possibilities are really combinations of familiar actual things.[85] The determinateness of the mental picture that arises before the imagination depends upon the determinateness and the individuality of actual things.[86]

The alert reader might have noticed that what is being defended here is a kind of combinatorialism of the imagination. As we saw in chapter two, combinatorialists (such as Cresswell) think that possibility comes down to alternative arrangements of actual existents. In my version, the imagination works upon what it knows and is familiar with and arranges those things and properties of things in alternative combinations. The determinateness of what the imagination conceives is entirely parasitical upon the determinateness and individuality of those familiar things. The imagination does not make its own objects of conception - they are 'given' to the imagination by the determinate world which is external to the mind.[87]

Now to the naming problem. Much work has already been done on this - Russell's theory of descriptions, for example, claims that there are no names for non-existent entities such as Sherlock Holmes. The so-called name is not really a name at all but merely shorthand for a set of properties - 'is a detective', 'lives in Baker Street', 'is very intelligent' and so forth. To my mind, the illusion that it is a name or that it is an individual that is being alluded to arises from how we are able to parcel up all these predicates into one thought or mental image in the imagination. Similarly unicorns are not named - what is alluded to is the combination of two predicates 'is a horse' and 'has

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[85] For brevity's sake, I must leave it to the reader to work upon the other sentence examples and show how their determinateness as imagined events is generated by the determinateness of the actual world and its components.

[86] I take it that this is part of the point Hume is making in the opening of his *Enquiries* where he talks about the idea of the golden mountain being derived from ideas that have been experienced. [Section II, 'On the Origin of Ideas']. My thesis has a strongly empiricist vein running through it.

[87] Later in the thesis, I will be looking at externalism in the philosophy of mind and language and how it impacts on the doctrine of divine ideas.

a horn'. We have in mind, when we talk about unicorns, how these two properties can combine together. As we have seen, the vivacity of the mental image formed by the combination of these two properties is determined by our encounters with what is actual.

Thus the argument concludes that the so-called names of possible things are in reality abbreviations of sets of predicates or properties. Now surely we are much less inclined to think of unexemplified (possible) properties as determinate things. Actual instances of red and imagined instances of red can be individual (although the latter depends for its determinateness on the former), but the property of red itself can hardly be thought about as a series of abstract rednesses that are awaiting exemplification. Here, I think, Peirce's continuity analysis has it right. We have a continuum that does not contain any individuals, but is determinable - an individual instance or exemplification of red can arise from it. We know that from the continuum of redness that particular shade emerges, not because it contains already determinate instances of red, but because we are familiar with actual instances of the colour.[88]

When, therefore, I allude quite naturally to the possibility of you having tea at 6 o'clock tonight I am thinking that various properties could be exemplified. I know what these properties are - I am familiar with them - not because the unexemplified properties are determinate, but because I am familiar with actual instances or exemplifications of those properties that have happened in my experience in some way.

This general point about the indeterminate world of the possible being explorable only by examining its emergent exemplifications can be seen much more vividly if we change our focus away from the humdrum examples of A to C to thinking about works of art. When Da Vinci completed the Mona Lisa or when Beethoven finished the Fifth Symphony, it seems utterly crazy to suppose that the items themselves somehow preexisted. The material 'ingredients' of both works existed and many of the techniques and skills employed predated the works, but the works themselves did not.[89] When Da

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[88] I am not sure whether it is better to think in terms of a continuum for each colour or one continuum for all the colours. Perhaps there are yet other ways of thinking.

[89] We will look more closely at the character of human and divine creativity in chapter ten. Those readers who think that my view of the imagination is rather algorithmic and mechanical will be relieved to know that I argue that we are, in a limited way, able to think genuinely new thoughts. and make genuinely new things. See note below.

Vinci planned his great work, it was not the Mona Lisa, the painting itself, that lay before his imagination, but a general notion which employed certain determinate components - certain colours, the model for the portrait, certain bridges in Italy. I think it would be unfortunate to claim that Da Vinci merely copied something from his imagination onto a canvas or even that he, so to speak, copied it from the mind of God. The individuality of the painting itself only arose when it existed.[90]

Comparing human artisitic creativity with divine creativity is also instructive. When a human artist makes a new thing there is so much material in the world to stimulate and nourish her imagination. When she paints a picture there is tradition, there are various techniques, there are existing colours that can be used for inspiration and so forth. God had no such material to work with before His creative act. His creativity had to be wholly self-reliant. He could not look at the regions of possibility and copy from there - at least that has been one of our central contentions. Such creation is wholly *ex nihilo*. It is *ex nihilo* in the sense that there is no pre-existing matter to work with; it is also *ex nihilo* in the sense that there are no already given 'mental' components that can be used like possible worlds. In contrast, much of what we do in creativity is a duplication of the already there - largely a mere shuffling around of pre-existing things and properties of things.[91] All these are determinate and enable the artist to get started on the creative task. We know continua because we have their emergent exemplifications.

However, it seems to me impossible for God to know what will emerge from a continuum, what a particular instance will be like before the actual instantiation takes place.[92] We have already argued that such a lack of knowledge is not a compromise of omniscience because it is logically impossible to know determinately what is essentially indeterminate.[93] To know Adam as determinate was impossible for God, not because he

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[90] In a sense, then, an individual new thing is more than a mere conglomeration of its parts. When a genuinely new thing is made, much of it is composed of the already existent and determinate, but it cannot be identified just with that. Again, we will be discussing these issues later on.

[91] This contrast between the absolute nothingness that confronted God in creation and the relative determinateness that we can use in our ponderings about 'possibility' is very like Peirce's distinction between what he calls Firstness and Secondness. See Parker 2002 esp p179 for a useful diagrammatic representation of Peirce's metaphysics.

[92] I am talking of God's knowledge prior to any exempification or instantiation of a continuum. In other words, I am talking about God's knowledge before creation happens.

[93] To know the indeterminate as determinate would be not knowledge but error.

was really well hidden amongst the infinite members of a continuum, but because a continuum does not contain any members. Before the creation of the world, God did not know what instantiations of properties would be like.

There is, I think, a separate but related argument that comes to the same conclusion. According to what David Blumenfeld calls concept empiricism, some things can only be known if they are experienced:

> Take the concept of the sensation of red. Surely one could not understand this notion if one had never had an experience of redness. I do not say that one needs to experience a red *object*. One might come to understand the concept by pushing one's eyeball and getting the appropriate sensation in that way. But I do say that without any acquaintance with redness, one could never comprehend *the sensation of red*. The reason for this is that part of the meaning of the concept consists of a certain subjective experience. [Blumenfeld 1978 p205. Emphases in original.]

Blumenfeld goes on to construct an argument that claims to show that not all God's traditional attributes are compossible. However, what concerns us here is the idea of concept empiricism itself. It is a plausible and persuasive position. How could a blind man really know what the sensation of redness is like if he cannot experience it? He could know many truths about the concept of redness. He could know that it is the colour that is used in traffic lights to stop traffic. He could know that it is the colour of blood. He could know these facts and presumably thousands of other ones, but the full reality of redness would never be known by him. There has to be instances of redness and experiences of those instances in order for redness to be known.

I suggest that concept empiricism is not just a truth for limited finite agents, but also for God. Before instances of redness were created, there was no way God could experience those instances. This is ruled out by the idea that instances of redness were not yet created. What philosophers have supposed is that there is access to what those instances of redness would be like through a comprehension of the corresponding universal or form. Plato supposes, of course, that acquaintance with the forms of properties is the supreme way towards true knowledge as opposed to opinion or belief. Concept empiricism denies this. It says that full knowledge of at least some properties can only be acquired if one has experienced instances of them. Comprehension of the universal - whatever that might amount to - is not enough. If there is a universal 'fear' I can only

fully understand it if I am afraid. God's knowledge of instances of colour, smells, touches and other what we might call experiential predicates is necessarily non-specific before those instances are instantiated.[94]

How does this argument relate to the contention that possibility is indeterminate? The important thing to note is that the same conclusion is reached in both arguments: knowledge of that which has *not* been created or instantiated cannot be the same as the knowledge had when those things *are* created or instantiated. Possibility is indeterminate according to Hartshorne and so can only be known as indeterminate. According to concept empiricism, instantiations of at least some properties cannot be known until they are experienced. But they can, of course, only be experienced if there are instantiations. Presumably once God has created blue or red or the smell of oranges, He can experience these things. If he is omniscient, surely there are no aspects of reality His awareness does not cover. In this sense, instantiation of redness is for God to immediately experience that instantiation. For finite agents, this, of course, is not so. There are presumably many things in the universe that we have not yet encountered that are instantiations of various universals. Perhaps Hume's missing shade of blue is waiting somewhere.

So, for God, instantiation of a property and experience of that property are co-extensive. Now if God can only know, say redness, by instantiating it, what knowledge does He lack up to the moment of instantiation? If we want to preserve a strong sense of God's omniscience, we must say that there is no lack at all. He knows the universal redness through and through, but that does not lead Him to know what individual instantiation of redness will be like. Why cannot He know this; what 'prevents' Him from knowing what red is by looking towards universals of redness? The answer surely is the Hartshornian one - possibility is indeterminate. The universal 'red' is not a series of discrete instances of red waiting to be copied out in actuality. Rather it is a continuum, not composed of parts or members. Despite Plato's avowals to the contrary, knowledge of the forms is not knowledge *par excellence*. God, like us, has to look to this world of

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[94] A particularly difficult problem arises here. How is God's knowledge of experiential things like colours and smells derived? I have talked about the impossibility of pre-creative knowledge of Adam, but how does God know Adam after creation? Is this not also impossible, if God has not got the appropriate sensory apparatus? This is an area that needs investigation, but space permits no exploration of this problem. From now I will blithely talk as if there were no problem.

flesh, blood and stone in order to comprehend it. He cannot do it abstractly, but concretely. He has to look to you to know you - He cannot know you as a kind of platonic object. God, I submit, must stare creation in the face.

God's Knowledge of Future Contingents and *Creatio ex Nihilo*

These lines of thinking, of course, go against, not just the possible worlds conception of creation, i.e., that God actualized an already scrutinized determinate possible world, but against almost the whole of Christian tradition and its thoughts about God's knowledge of what He was doing in creation. However, let us for the moment accept that Hartshorne's and Peirce's account of the metaphysics of possibility is correct and see if any ways of accounting for God's knowledge of creation can be given which do not rely on the notion of possible worlds or possible things. Let us see, that is, whether we can give a more orthodox account of God's knowledge of the possible whilst also, for argument's sake, accepting that possibility is indeterminate.

The answer that Aquinas would give is that God knows me as a fully determinate individual by knowing Himself. Basically, the thought behind this move is that all effects, in a sense, reflect the causes from which they originate. Thus the heat of the match is reflected in the heat of the fire of which it is cause. Now God is pre-eminently the cause of all things - therefore, all things as far as they are perfect are pre-echoed in God. (For Aquinas, any imperfection or evil in a created thing is a falling away or negation of God's perfection and, considered as a lack, rather than a positive thing, has not got any divine origin.) So God knows what I am going to be like by directly apprehending Himself and instantiating something that echoes Himself, though not in the same manner or mode with which it is apparent in the divine nature. Thus Brian Davies says of this aspect of the Thomist philosophy,

> ...God is perfect because he is the cause of his creatures and must therefore contain their perfections...Aquinas thinks that causes are reflected in their effects. On this basis he reasons that God contains in himself all the perfections of his creatures and is therefore properly called perfect. Once again, we need to note that Aquinas does not here mean that God has the perfections of the creatures in the way that they have them. He does not, for example, suppose that the perfect tadpole or a perfect house look like God. For him, God does not have the perfections of creatures in the mode possessed by them. [Davies 1992 p82].

So in as far as a future X is a perfect thing of its kind, God is able to pre-know it by apprehending the corresponding perfections in Himself. Now the qualification 'in so far as' is important. No created mortal thing, as far as I am aware, is a perfect thing of its kind. So God could perhaps have a hazy idea of those aspects of my being which were more saintly than others, but surely this would not be enough to ensure that I am completely determined as a possible individual. The most this doctrine would have say is that only the very good parts of me could be pre-known with full determinateness by God. And yet, even this, must surely be to say too much. It is as if the very good parts of me replicate something in God - something they must do if God is to know them with complete determinateness. I know of nothing creaturely that we could say is a *duplication* of the Divine. The nearest thing we could say is that something of God could be seen in a person, something that hazily reflects the divine nature.[95]

It is important to realize that Aquinas' account of God's knowledge of future things does not rely on the existence of determinate *possible* items, but on already determinate (actual) aspects of the divine. According to Aquinas' account, God is able to know future items by apprehending Himself. I have no real problem with this aspect of Aquinas' thought since it does not require the postulation of the existence of possible items. It can be seen, however, that I do not think his account would be enough to give knowledge of what future individuals would be like - not enough of us reflects the perfection of the divine,[96] although perhaps there is a limited sense in which we reflect the nature of God.

How else, then, could God know of what He was creating under the continuum picture of creation? Recall that, according to Hartshorne, it is not the case that everything is indeterminate: prior to creation there are certain abstract objects that are determinate. He says,

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[95] Christian tradition, of course, talks about the image of God in man. For me the truth of this idea is that God and man are both creative. God, I will argue, has given us the capacity to create, even in a finite and limited sense to create from nothing (see chapter ten).

[96] There are, of course, other aspects of a person which do not seem, in any sense at all, to have a pre-existing divine correlative, e.g., the skin's texture, the hue of a countenance, the look of someone's eyes. Here the argument of concept empiricism is especially compelling.

But at any rate I see no good ground at all for supposing that, *beside numbers or similarly abstract entities, including metaphysical categories*, every quality of sensation or feeling that occurs in experience must have its eternal duplicate. Feeling as such, quality as such, yes, but not red, sweet, as determinate qualities identical with those we enjoy in experience. Feeling is a determinable of infinite range, not a vast sum of determinates. As Peirce held, possible qualities of feeling form a continuum without definite parts. [Hartshorne 1970 p65-66 My emphasis].

So mathematics and its objects are determinate.[97] This I think opens up the possibility of saying that before creation God could hold before His mind, not determinate feelings...etc., but idealized mathematical points and arrangements or patterns between them.[98] This would represent the initial arrangements of elementary particles at the beginning of the universe. Thus God could see the patterns and shapes formed by these points and thus 'see' arrangements of elementary particles and decide which arrangement to actualize. I do not know how God could have any idea of the relationship between these point relationships and the things they make, nor do I know how God could see the relationship between these patterns and relationships and feelings as such, smells as such...etc - in other words, the relationship between mathematical point relationships and the kinds of higher level property they would make if comprised of a particular arrangement of elementary particles. This kind of model would, however, point toward an explanation of why mathematics seems to be such an elementary part of any explanation of the universe. It would give some kind of substance to mathematics being the language of God. However, I do not commit myself

[97] This idea that mathematics and its objects are determinate and always actual and the experiential is not preserves an important insight. Most would agree that in some way mathematical truths are eternal and immutable - but why should we go onto to argue that everything else possesses the same character of eternity and immutability? But the determinate picture of possibility puts everything in the same realm of timeless unchangeability. Thus the colour blue is as necessary and eternal as any mathematical item or equation. Few people are disturbed by the idea of mathematical truths having always existed - indeed, in all probablity they were introduced to the idea of eternal truths by way of mathematical examples. Could 2+2 ever have equalled anything but 4? No, the stability of that truth is guaranteed by the immutability of its elements. Imagine being introduced to the notion of eternal truths by the use of colours: "This colour has always existed." says the philosophy tutor. I think such a proposal would be met with a certain amount of incredulity. By pointing this out, by the way, I am not trying to denigrate the experiential: as if I am saying experiential properties are only temporary while the mathematical is eternal. As we will see, the mathematical can be called the unoriginal, the same, the already done or something of that kind, while the experiential is new, original, creative, imaginative.

[98] This idea was prompted by Peter van Inwagen's essay, 'The Place of Chance in a World Sustained by God' [1988] where he pictures God making initial arrangements of elementary particles.

to this picture, nor to the picture that has God making elementary particles as some kind of prelude to higher level systems.[99] I only suggest it as a proposal and openly admit that it probably raises more questions than it answers. Let us now turn to another account which tries to show how God can have knowledge of what is possible which does not commit itself to the notion that there are possible things. Because Ockham's account is complex and also because his concerns with ontological austereness are so close to our own, we will devote a whole section to the study of his ideas.

William of Ockham

We have examined Aquinas' way of explaining the proposal that God has knowledge of future existents and looked at its shortcomings. We then suggested ways in which Hartshorne's account could be developed, but these suggestions were brief and very tentative. Let us look at Ockham's ingenious proposed solution to the problem of how God can have knowledge of possible future existents.

Ockham's thought is difficult and complex - here I can only offer a brief exposition and analysis of his philosophy.[100] In order to make the task more manageable and useful, we will concentrate upon Ockham's theory of divine ideas.

Ockham's views on the ontology and the metaphysics of the divine ideas emerged from a complex background of fourteenth century thought, which we need to look at in order to appreciate Ockham's ideas. One notion of the ontology of the divine ideas was universally rejected - no one was prepared to countenance the platonic notion that the forms or ideas were *external* to God. This was theologically unacceptable since it implied that something else was eternal and immutable beside God. The ideas stood outside the divine; furthermore, as we have seen, according to Plato in the *Timaeus*, the forms were the exemplars for creation. It was by using the forms as models that Demiurge was able to make the world rationally. Instead of the world being due to chance, the Demiurge knew what He was doing by looking to the forms. This seems to

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[99] The notion that simple collocations of elementary things can produce higher level systems belongs to modern biology. It is not reductionist since the higher level systems cannot be explained by sole reference to the workings of the elements of which it is made [see Kirkpatrick 1994 for a discussion of this notion].

[100] My principal source for what I say here is Marilyn McCord Adams' magisterial book *William Ockham* [1987].

imply that God is not self-sufficient. He needs something external to Him in order to complete His creative task.

Starting with Augustine, a Christian Platonism began to emerge, which used the insights of Platonism but purged it of what was seen as unhealthy pagan elements. In this Christianizing of Plato, the notion of forms or ideas was retained but they were seen as being part of the divine essence. Under this understanding, there is no separable realm of forms to which God would have to turn in order for creation to be rational. Instead, God looks, as it were, within Himself, at His own ideas in order to create rationally.[101] The Creator is no longer seen as dependent on an external realm and so His self-sufficiency is preserved.

Unfortunately Christian Platonism, appeared to run counter to another theological principle. The ideas or forms are plural whereas God is meant to be perfectly simple. According to Augustine, God makes a man by using the form of humanity and makes a horse by using the form of equinity.[102] But if there are at least as many forms as there are species of things in the world and these forms are seen as somehow being internal to God, then, we have a problem for what is meant to be perfectly simple (i.e., God) is now compromised by a complex plurality of forms.

Ockham's predecessors and contemporaries tried to solve the problem. But all attempts at a solution seemed unavoidably to be caught on one of the twin horns of a dilemma. If the forms are placed outside of God, then, simplicity is maintained but God's self-sufficiency (and his being the only genuinely eternal entity) is compromised. Alternatively if they are thought of as being inside or internal to God, then, His self-sufficiency and unique eternity are maintained, but at the apparent cost of his

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[101] And so the doctrine of divine ideas (as a kind of counterpart to Plato's forms) began to emerge. Arguably there are currents of this kind of approach in Plato himself. In *The Republic* (6, 504-5010, esp 508e 3-6 and 509b 8-10), the form of the good could be seen as acting as a sort of ground of being to the other forms. According to Gerson, it was commonly thought in ancient times that when Plato writes of the form of the good he is talking about 'god'. The word 'god' here can be roughly defined as a overall metaphysical *arche* of all there is rather than a personal deity. (See Gerson 1990 p63 for the identification of god with the form of the good and p57-65 for discussion of the role of the form of the good.)

[102] See Augustine's *On Eighty-Three Questions*, q46.

simplicity. Is there an ideal way of keeping all these theologically desirable ideas together?

One suggestion was to maintain that the forms were only distinguishable by reason, but in reality were one thing - namely the divine essence. This notion of something being distinguishable in reason but retaining actual or real unity was a commonplace of fourteenth century thought - for example, the divine attributes of omniscience and omnipresence were seen as being really one thing identical with the divine essence, but were supposed to be distinguishable in reason. But what is it to distinguish something in reason? Basically, as Adams observes, a distinction of reason "involves mere separability by a thinking mind. Thus it was held that there is a distinction of reason between x and y, if and only if x and y are thought of by means of distinct concepts" [Adams 1987]. Thus the concepts of omnipotence and omnipresence are distinguishable in thought, but there is no real distinction between them, where real distinction is held to be "the logical possibility of separate existence in reality." Since the two distinct concepts are actually identical with the unitary divine essence, there is no logical possibility of separation; but we have a distinction of reason because we have two distinct concepts.

Now for Ockham the notion of a distinction in reason is confused if it is meant to refer to real items as opposed to what he calls beings of reason. Beings of reason are conceived objects of thought, which according to Ockham's early ontology have a nonreal mode of existence.[103] Thus the idea of the perfect equilateral triangle is a being of reason - it does not really exist in reality but can be conceived. In his early philosophy, Ockham reasoned that something that is thought of cannot be nothing for then the thought would not be of the perfect equalateral triangle (for example) but of nothing, which appears absurd.[104] Thus the notion of a nonreal mode of existence was a kind of compromise notion in order to avoid this apparently absurd consequence. Now Ockham maintains it is perfectly intelligible to distinguish in reason between conceived objects of *thought* for their being is, as it were, dependent on the conceiving mind. However, real extra-mental objects cannot be properly subject to the notion of a distinction of reason for their existence and nature is unaffected by how they are

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[103] Later Ockham rejects any ontology that accepts that there can be things which have a nonreal mode of existence. More of this later.

[104] See Adams 1987 p19-22 and 75-83

thought of. It is a kind of category mistake to apply distinctions of reason to real objects because how they are conceived has no bearing on whether they are separable in reality or not.[105] So Ockham rejects this solution to the problem of how the divine ideas can be plural, but really one. If they are *really extramentally* one, then, the notion of a distinction of reason cannot be properly applied to them.

Another proposal held that the divine ideas were relations of imitability. As we saw above, this theory was held by by Aquinas, but the version that Ockham specifically criticised was that version of the theory held by Henry of Ghent. Recall that the basic idea is that God is able to conceive of possible creatures albeit in a dim and obscure fashion by conceiving of how He Himself could be imitated. The awareness of creatures is necessarily dim and obscure because creatures can only imitate infinite and perfect God in finite and imperfect ways. Thus God's conception of Himself provides a conception of how He can be imitated in various ways, but His awareness of the creatures cannot be clear and distinct because He cannot apprehend imperfection and finitude by examining His own perfect and infinite essence. The details of Ockham's criticism need not concern us here. What is more pressing is to examine how this kind of approach to the doctrine of the divine ideas links in with another problem that engaged mediaeval thinkers. Most thinkers of the era thought that God's access to the world is indirect. God does not see the world directly, but through a consideration of something else. This is true, not only of God's knowledge of future existents, i.e., that which is to be, but also of present existents, i.e., that which is. Part of the reason for opting for this kind of representationalism in the divine knowledge of the world was to keep God immune from the vagaries and sinfulness of the world.[106] God does not look

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[105] Adams 1987 p21.

[106] The representation problem was already implicit in any account of the divine ideas which accepted the platonic notion that there are no forms of particular things, but only forms of what in modern times we might call properties or attributes. In other words, for Plato, the forms are only of things like humanity and equinity, the kinds of item that are capable of being the attributes of particular things. Now if the divine ideas are of attributes like humanity then God can only have access to, say, Socrates by examining the form of humanity. God is denied an idea of a possible particular man because there are only forms of things capable of being properties and a particular man is a bearer of properties. There are no forms of particular things (although, it must be noted, in the *Phaedo*, Plato argues that individual souls have an affinity or likeness to the forms [78bff]). Plotinus proposed that there could be forms of particular things in *Enneads* v, 7, but, according to Wallis, it is 'unclear how consistently Plotinus maintains this doctrine and how far he intends it to apply...' [Wallis 1972 p54].

directly at His creation, but in order to shield Himself from the finitude of creation, looks at something which is a more proper object of the divine contemplation, that is, Himself. God, as it were, uses a mirror in Perseus-like fashion, and looks at that instead. Linda Zagzebski examines this suggestion in her book *The Dilemma of Freedom and Foreknowledge*. She says that, in Aquinas' view, God

> Primarily and essentially...knows only himself. To know anything else would be to focus the divine gaze on the imperfect. But in his simple and direct intuition of his own essence, God knows secondarily everything else. This is because God's essence contains exemplars of the infinitely many ways his essence can be represented in finite reality: "God knows Himself as primarily and essentially known, whereas He knows other things as seen in His essence." [1991 p88]

Ockham has little time for this idea. He wants to claim that God's knowledge of the world is direct whether it is knowledge of future existents or present actualities.

Thus Ockham's theory of divine ideas tries to show how direct realism in divine knowledge of the world and the simplicity problem can be harmonized. His solution is radical indeed. Ockham agrees that if the divine ideas are identified in some way with the divine essence, then, God's simplicity is compromised. He disagrees with the Thomist notion that God's knowledge of possible creatures is generated by a consideration of the way He can be imitated. Thus Adams says, "Ockham argues by a process of elimination that ideas are not the divine essence, nor a relation of reason but creatures themselves."[107] Thus it is to the created items themselves that God looks - Adam, Eve, Abraham themselves are the content of the divine scrutiny, not just representations of those items.

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[107] See also Copleston 1993 Vol. 3, part one, chapter IV, section 5 (p88-92) for a brief exposition of Ockham's views on the divine ideas. Also see Leff 1975 p436-447. Leff however seems to have a different interpretation of Ockham to Adams. He says that the ideas are in God "only as *mental objects* of what he knows can be produced and not as anything real in Him." [p440 my emphasis]. Now this is a totally different view of what Ockham is saying for it leaves us with a commitment to indirect realism. God knows creatures not through direct apprehension but by a consideration of their corresponding mental objects. The difference between the two views is whether we say the divine ideas are the creatures themselves (there is an identity relation) or whether we say God's ideas are *of* the creatures themselves (God's ideas and the creatures have a relationship but not necessarily one of identity). (However, Freddoso comments in the introduction to his translation of the *Quodlibetal Questions* that Leff's book is "riddled with errors and misinterpretations, many of them absolutely fundamental.")

Ockham arrives at his remarkable solution by eliminating the alternatives. The divine essence cannot in some way be identified with the divine ideas since this compromises God's simplicity. It cannot be a relation of reason (i.e. imitability) since the imitability relation is not strong enough to provide a basis for God's knowledge of creatures, i.e., the knowledge of creatures will always be hazy since God is infinite and creatures are finite. To avoid all these problems Ockham asserts that God knows creatures directly and not through mediation. What virtues has the Ockhamist account?

First, as we have said, it does away with the representation problem by saying that God's access to creatures is not by way of something else, but by direct apprehension. God's ideas *are the creatures themselves*; it is to them He looks in His rational creation of the world. Ockham says,

> ...that creatures themselves are ideas. First, because every part of the above stated description [of God's mode of cognition] applies to creatures. For a creature itself is cognized by an active intellect, and God looks to the creature itself in order to produce rationally. For to whatever extent God cognizes His own essence, if he did not cognize what is producible by Him, He would produce in ignorance and would not produce rationally and consequently not by ideas. Therefore, He truly looks to the creature and by looking to the creature can produce it. [Quoted in Adams 1987 p1054, from *Opera Theologica* IV, 488].

The second virtue of Ockham's proposal is that the rationality of creation is assured by a full and complete *determinate* entity, in other words, the creatures themselves. It is, as he says, to them that He looks, not to some other object which represents them. It appears then that two theologically and philosophically desirable principles are achieved by identifying the divine ideas with the creatures themselves. First, God's apprehension is direct: putting aside the objection that this means God is liable to be contaminated by the created world, it has the advantage of reducing theoretical entities since He needs no mediating representations. Secondly, God does not produce in ignorance: He does not, for example, look towards the necessarily general notion of humanity in His creation of Socrates; instead He looks towards Socrates himself. There are not ideas of creatures and creatures; instead there are only creatures.

Ockham's claim is easily misunderstood. Recall that Ockham says that the divine ideas are not the divine essence. We must not be tempted to say that the identification of the divine ideas with creatures themselves is a commitment to the view that within God

there is a multitude of distinct (creatable) objects. The divine ideas are not, therefore *within* God, but external to Him.[108] Ockham insists that the "divine essence is unique and cannot be multiplied in any way." [Adams 1987 p1053].

It seems to me possible to look at it like this: we can dispense with the theoretical (intermediary) entities traditionally called the divine ideas - instead we have only the creatures themselves acting out the same function of assuring that creation is rational, that God does not act out of ignorance. It is to them that He directly looks in His ordering of creation; He has no need to look at anything else. Indeed, why should He look to anything else when He has the creatures themselves as the perfect models for creation? (It seems to me that we are very near to arriving at an incoherence in Ockham's theory, but let us press on for the moment.)

Ockham has therefore solved the problem of representation and simplicity. There is no need to postulate a multiplicity of distinct entities in the divine essence - God looks directly at (external) creatures in order to create with full knowledge of what He is doing.

Now, however, another problem returns to plague Ockham's account. Surely if the creatures themselves are that to which God looks in His creation of the world we are committed to these entities being eternal. God cannot *create* the divine ideas from nothing for then He would have no complete entity to serve as the model or exemplar of that creation. He would, therefore, be creating out of ignorance. *Creatio ex nihilo* looks, then, to be an impossibility given a commitment to Ockham's understanding of the divine ideas and his understanding of what constitues a rational creation. Indeed, we seem to be back with a commitment to a kind of platonic understanding of creation: there is a separate eternal realm of objects of divine contemplation, i.e., the creatures themselves, which serve God as His model for the rational ordering of the world. The ideas here are not universal or general natures like humanity or equinity, but particular essences (such as Socrates and Plato) eternally existing alongside God.

We saw at the beginning of this section that Platonism was almost unanimously rejected by fourteenth century theologians and philosophers, for exactly the reason that it

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[108] Adams 1987 p1052-1053.

postulated something co-eternal with God. Mediaeval theology was, in other words, committed to the following thesis:

> God alone exists necessarily, and everything else that exists is the product of His free and contingent volition [Adams 1987 p1034].

The commitment to this tenet was very strong in Ockham. Indeed, it was one of the reasons why he was so concerned to attack the moderate realism of the day, which held that universals exist or inhere in individuals (as opposed to the platonic view, which held that the universal was separate). Ockham thought this was tantamount to rejecting the notion that creatures could be created from nothing once anything of that same species already exists:

> An individual of some species can be newly created no matter how many other individuals of the same species remain, created or produced earlier. *But creation is absolutely from nothing, so that nothing essential and intrinsic to a thing absolutely precedes it in real being.* Therefore, no nonvaried pre-existing thing in any individual belongs to the essence of that individual, if it is newly created. For if it did, something essential to the thing would precede it, and consequently it would not be created. Therefore, there is no universal thing belonging to the essence of those individuals. For if there were, it would pre-exist every individual produced after the first one. Consequently, all those produced after the one first produced would not be created [from nothing], because they would not be from nothing. [*Ordinatio* I, d, 2, q4, trans P Spade. See also Adams 1987 p34-35. My emphasis.]

In other words, when X is created, there is nothing essential to X that preceded it for if there were we could not truly say that X had been created (from nothing). That creation is absolutely from nothing is playing a foundational or presuppositional role in Ockham's argument. But, as we have seen, Ockham's view of the divine ideas appears to contradict this foundational commitment to *creatio ex nihilo*. Ockham, of course, realized this and tried to find a solution. How he tried to do so will be the subject of the next section.

Ontological Commitments and Divine Ideas

In Ockham's early thinking he held what Adams calls the objective-existence theory of the ontological status of concepts. Basically this meant that concepts did not enjoy real

existence, but subsisted in a kind of Meinongian fashion.[109] Ockham thought that there would be no threat to God's uniquely held eternity if this notion of their ontology was kept. The divine ideas could be granted nonreal status; they 'exist' but only to a certain extent and certainly do not exist sufficiently to threaten God's unique eternity. Later Ockham rejected the objective-existence theory for a variety of reasons, not least because he held that even if they were to exist in this diminished fashion there would be an intolerable necessity in their existence that would compromise God's status as the only necessary being of any kind. In the *Quodlibetal Questions*, Ockham argues that there is no reason to postulate the existence of '*ficta*' (objectively existent entities) for an understanding of the proposition "God is three in one". There is not a kind of objectively existing intermediary concept through which an understanding of God is achieved. Rather one understands God directly. As Ockham says, "such a fictive entity will impede the cognition of a thing." [IV, q35, translation by Freddoso and Kelley 1991]. Here Ockham is defending his direct realism, his directly realist approach to the philosophy of divine epistemology. Representational theories must be rejected.

He goes on to argue that if there is a fictive entity (or an objectively existent concept) of everything that exists or could exist, then, each one would threaten God's unique necessity, even given the fictive entity's diminished or objective existence:

> ...God, in understanding other things, would understand fictive entities of the sort in question. And so from eternity there was a collection of as many fictive entities as there can be different intelligible things, and these fictive entities were so necessary in their existence that God was not able to destroy them - which seems absurd. [IV q35].

Thus Ockham rejects his early ontology in favour of a much more parsimonious system. But now he must explain how the divine ideas can be the creatures themselves without a commitment to their eternal existence. He no longer has the option of a recourse to the objective-existence theory, which would hold that they exist but in a nonreal fashion.

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[109] Alexius Meinong argued that all possible (and even impossible) things exist but not in the same full fashion as actual existents.

The traditional terminology here is very easily misunderstood. The objective existence theory does not say that possible things exist in an objective way, where 'objective' is read as more or less a synonym of real. Rather the *objects* of thought enjoy a kind of existence but a nonreal one. In other words, objective existence is to be *contrasted* with real existence [See Adams p73-107 for discussion of this idea].

Ockham's solution trades on an analysis of what it is to understand something. In particular, what ontological implications are there for the object which is the object of understanding? Basically, Ockham argues that to understand X is not a commitment to the existence of X, but that it is true to say that there is a thought-of-X. That is to say, there is a really existent act of understanding that has the property of being-of-X. Leff explains,

To the objection that St Augustine repeatedly described ideas as eternally in God so that they must be really in God, Ockham distinguishes between existing eternally and being known eternally and immutably. It is the second sense that ideas are in God...[Leff 1975]

Adams says,

Ockham contends that prior to its real existence a creature "is nothing though understood" [Opera Theologica IV, 646]. In order for God to understand creatures from eternity, it is necessary only that His act of thought have the property of being of-such-and-such-creatures. [Adams 1987 p1059].

So X's being known or understood does not require the existence of X.

In *Quodlibeta* VI, 6, Ockham discusses whether there can be an intuitive cognition of an object that does not exist. His reply is that "a vision is an absolute quality distinct from its object. Therefore, it can, without contradiction, be made to exist in the absence of the object." Now since God is the Father Almighty he is able to do that which does not "involve an obvious contradiction", and so God is able to produce the cognition of a thing without that thing actually existing. There can, therefore, be understanding of a thing without that thing actually existing. In the final sentence of the section, Ockham draws this conclusion:

Hence, from eternity God saw all things that were able to be created, and yet at that time they were nothing. [translation by Freddoso and Kelley].

Adams goes on to explain how this would fit in with modern thought about the ontological status of possibilia. Ockham's position, she says, basically boils down to a type of actualism. Actualism, it may be recalled, is the thesis that possible items reduce down to items which are actual. In Ockham's theory the possible creatures, which are

identified with the divine ideas, are reduced to actually existent acts of the divine intellect. They are in themselves nothing; they do not exist - their possibility comes down to God's cognition, or understanding. Remember that with Ockham's divine epistemology, understanding X does not mean that X exists even in a subsisting way.

Evaluation and Criticism of Ockham's Theory

Ockham wants to say two things in his analysis of the divine ideas. He wants to reject the notion that God's method of cognition of creatures is representational - rather it is direct. God sees the creatures themselves, and it is through contemplation of the creatures themselves that creation is rational. Second, he wants to avoid the apparent consequence of this which seems to require that the creatures, if they are to serve the function of being the exemplars of creation, must always exist. As we have seen, this consequence is avoided by Ockham's insistence that understanding X does not require the existence of X.

But is the last statement really an adequate interpretation of Ockham's position? Let us recall the quotation given in the last section:

> Hence, from eternity God saw all things that were able to be created, and yet at that time they were nothing. [translation by Freddoso and Kelley].

The phrase "at that time" is puzzling. It is as if Ockham is tempted to say that though once Socrates did not exist, he can still provide a model for creation since he *will* do (and therefore his existence at some time or other is actually necessary). God looks forward temporally; He looks towards the future Socrates. It is this future Socrates that provides the model for God's rational making of Socrates. This interpretation seems plausible if we cast our minds back to the basic tenet of Ockham's theory of the divine ideas. The divine ideas are the creatures themselves. It is not some kind of concept or idea of Socrates that is the epistemological underpinning of God's access to Socrates. God's access to Socrates is direct. But if there is nothing that exists to serve as the thing to which God has access, then the theory seems doomed. 'But,' Ockham seems to be saying, 'Socrates is not absolutely nonexistent. At the beginning of the world ("at that time") he did not exist - he was nothing. Yet he *will* be.'

It seems that this *must* be what Ockham is saying. He says that it is to the creatures themselves that God looks. Thus we need not postulate the existence of mediating divine ideas through which God creates rationally. But Ockham also does not want to say that the creatures are eternal. His solution to this is to say that X need not exist in order for there to be understanding of X. But surely if X does not exist, any understanding of X must be representational. One cannot look towards X if X does not exist, one must instead look towards a representation of X. The only solution to this conundrum is to say that Ockham is committed to the thesis that at the *time* of creation there was nothing outside of God. In order to create rationally God did not look internally at mediating divine ideas, instead he looked externally at the future creatures themselves. He peeked at the future.

If this is what Ockham is saying, then, I think it is incoherent. Not only that, but it fails to do justice to what God could have made but did not. Let us take the latter statement first. If a being must exist (at some time) in order to serve as its own model, then, God can only make the things He has in actual fact made or will make. The future, so to speak, dictates the creatability of a thing. But what of those things that God will never make, those possible objects that never will exist? What about the Eve that was two inches taller than the actual Eve?

The charge of incoherence is even more serious. Surely there is something wrong with the notion that a future object serves as the model for itself. My criticism is not to do with the notion of backward causation or some kind of difficulty to with time or temporal paradox. The difficulty is a logical one - to be more precise it is a question of logical priority. The notion that the divine ideas are the creatures themselves serves an explanatory function. It explains (or is meant to explain) how God's creation can be rational - the creatures themselves serve as the models or exemplars of creation. That the world has *this* nature is not the product of chance since God saw fully determinate entities that could serve as His models. However, it appears to me to be a matter of simple logic that nothing can act as its own model. A model is necessarily a different thing to the thing that it is a model for - that is why it can be explanatory.

Imagine I want to explain to someone how the arbour in my back garden is such a magnificent structure. I take him to the detailed model of the arbour where I have

carefully planned out every detail of its construction. I might say that I thought of its construction so often and with such magnificent mental dexterity that I was able to represent it with almost perfect clarity even before it was built. The model of the arbour or a worked out mental plan can serve as models. (Note that the latter option is not available to Ockham since it is an *idea* of a creatable thing, not the thing itself.) I cannot say that the arbour itself served as my model even if I had a crystal ball and foresaw its pulchritudinous design. That would not explain why *I* was able to make it so well. Presumably the future arbour (that I foresee in my crystal ball) was made by me. Why was *I* able to make that shed so well? What served as its model?

Let us take a different example: I am fed up with the slow progress of my thesis, the wooden phrasing, the lack of insight. I decide to look at my magnificent future thesis which is supremely articulated and bursting with clarity and insight. I carefully transcribe it word for word, copying its every insight with a kind of feverish excitement. But why, we might well ask, is this future thesis so good? Its rationality and rare talent have not been explained. On the other hand, if I were to show you the dozens of redrafts, the carefully worked out plans, then, my making of it whether for good or bad would (at least in part) have been explained. In the same way, the rationality of the created world is meant to be explained by Ockham's use of the creatures themselves as the exemplars of creation. But, as we have seen, a model must be a different thing if it is to function as a model, if it is fulfil its function of explaining how something comes to be as it is.

At this point one might interpolate that we do not need the notion of models when we consider God's creation. Shakespeare might have needed to spill a lot of ink in the pursuit of perfection, but God needs no quill. He just makes and it is enough that He is the being He is in order for creation's rationality to be explained. To my mind, such a line of thought is essentially correct. We do not need platonic forms or possible worlds jostling for existence before the divine cognition; we do not need models and exemplars making our ontology into a slum. It is enough to have God and His glorious capacity to create. If I were to make a arbour of Olympian splendour, it would need to be explained such is the inadequacy of my woodworking skills. There would have to be plenty of rough drafts and years of labour. There would have to be exemplars and models galore! But surely it is unedifying to consider that the rationality and the order and the

splendour of God's creation have to be explained as if God was, like Hume's deity, always botching the job. No, it is not the rationality of creation that needs explaining (which is, of course, Plato's concern); rather it is its (partial) irrationality, the fact that so much of it is wrong.

This is to my mind explained by the continuum model of God's capacity to create. There is room for chance, for things to go wrong because necessarily there can be no plan of creation in the sense of completely determinate entities in the realm of possibility. This also leaves room for freedom. Although Ockham is concerned with ontological reduction, His theory of divine ideas actually reduces God's freedom since God's options are reduced. As we saw, only the things He made could have been the things He made since only things which exist or will exist can it seems be the subject of God's awareness.

Now we have to consider an objection to this proposal that Ockham's theory reduces God's options. What if God makes everything that can be made? If so, then the divine ideas are not limited to those things that come to be; they are not limited at all. Every conceivable things comes at some point to be. Such a thought may seem *prima facie* absurd, but, as we shall see, Leibniz argues that this world contains the most essence there could be:

> Hence it is seen to be most evident that out of the infinite combinations of possibles, and the infinite possible series, that one exists by whose means the greatest possible amount of essence or possibility is brought into existence. ['On the Ultimate Origination of Things', 1697, trans G Parkinson]

Now, according to Leibniz's account, not every conceivable thing comes to exist since some things are not compossible with others. For example, one might envisage the possibility of an object that satisfies the description "the only material thing ever to exist." Such an object is obviously incompossible with any other material object. And so even under Leibniz's super-generous account of what comes to exist, not every possible thing comes to be, since this putative possible object never will exist.

In any case, it seems to me that the notion that perhaps everything comes to exist at some time or other is a desperate measure. It might be employed to save Ockham's

theory,[110] but apart from considerations about compossibility, it creates too many unsavoury consequences. For example, not every kind of evil exists. There is the actual Holocaust, but what about the existence of Holocausts that are worse. Surely such Holocausts are possible and so must exist if we want to save Ockham's theory in this way.

It seems to me that Ockham's concerns are the correct ones. He wants to preserve God's unique eternity and His self-sufficiency, but Ockham's novel solution to the problem of the divine ideas founders when it comes to the details. The notion that a creature can be an exemplar or model that can explain the rationality of creation seems incoherent. Moreover, God's freedom is limited: we have found that there is a kind of strange tyranny of the future that dictates that creatability of an entity. Only those things that will be created could be created.

As I have already intimated, the problem arises as soon as one thinks that there must be some model that God uses in His creation. Such a proposal already contains within it the seeds of a denial of God's self-sufficiency. Only the continuum model of God's capacity to create leaves God unconstrained by the idea of models and exemplars.

As a final thought for this chapter, let me present another argument for the continum analysis of possibility, one, inspired ironically enough, by Leibniz. As we shall see, in a later chapter, under Leibniz's idea of providence, God is morally obliged, although not necessitated, to make that possible world that contains the most perfection. In order to explicate this notion, Leibniz uses a conception that is remarkably similar to the idea of the continuum. There are no leaps or jumps in nature, says Leibniz, since if there were God could have produced something else that would, so to speak, fill the gap. This idea that something else - something more - could be produced contradicts Leibniz's supposition that God produced the world with the most perfection. A world capable of containing more items would be a world falling short of the maximal perfection that God could produce. The Leibnizean idea of continuity says that everything is joined so that nothing else could be - there simply is no more room for any more things to exist. This is how Leibniz explains the idea:

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[110] It would not, of course, save it from the deeper charge of making a logical error.

I think I have good reasons for believing that all the different classes of being whose assemblage forms the universe are, in the ideas of God who knows distinctly thier essential gradations, only like so many ordinates of the same curve whose unity does not allow us to place some other ordinates between two of them because that would be a mark of disorder and imperfection. [Quoted in Rutherford 1995 p30]

There must be, according to this conception or principle of continuity, a smoothness in God's ideas. There is no room for more. Between any two ideas, there must be another and another and another *ad infinitum*.

This principle of continuity amongst God's ideas applies to the world as well for the reasons outlined above. Furthermore, leaps, gaps or jumps, in the real world, defy reason:

This is the axiom I use - no transition is made through a leap. I hold that this follows from the law of order and rests upon the same reason by which everyone knows that motion does not occur in a leap...Experience teaches us that this does not happen, but the principle of order proves it too, according to which, the more we analyze things, the more they satisfy our intellect. This is not true of leaps, for here analysis leads to mysteries. [Quoted in Rutherford 1995 p31]

If we at least apply the spirit of these remarks to God's ideas about possibility, we find that it leads to an argument that supports continuum analysis. Let us say that God has ideas of red and orange. There must be, if the principle of continuity is to be believed, a third colour between them. Let us call it rorange. Now we have red-rorange-orange. Applying the principle of continuity again, we get red-drorange-rorange-erange...and so it goes on. Leibniz believes that God has, if you like, infinite discrimination, even amongst such a multitudinous collection. He can really peruse the list and pick out something from it. However, Peirce's conception of the continuum is of a higher order of multitude than Leibniz's - mathematically, the Leibnizean idea of this kind of infinite divisibility only leads to **N** and is consequently countable. For Peirce, this so-called gaplessness or continuity is really only a series of smaller and smaller gaps. Gaps are not eliminated. If Leibniz had had the knowledge of transfinite mathematics and had conceived of Cantor's notion of Ω, who knows what he might have said about the nature of God's ideas? He might have concurred with Peirce that the whole notion of individuality was ruled out by the nature of a continuum. In order to eliminate the mystery alluded to in the last quotation, he might well have thought that possibility was smooth and thought that this had consequences for the possibility of God discriminating

along a continuum. For with no individuals to discriminate, no discrimination of individuals can occur.[111]

How are we to conceive of continua? The notion might be coherent, but it seems hardly plausible. It seems we do not come across anything like continua is the world. In the next chapter, I try to show that we do know continua. Capacities and powers are the sort of thing that are susceptible to continuum analysis. Furthermore, if capacities are amenable to continuum analysis, then, we can say that God's creative capacity is of the nature of a continuum. We can identify the ground of possibility with God's creative powers or capacities. Let us turn to these matters now.

[111] For more on Leibniz's principle of continuity see Mates 1986 p162-166.

Chapter Six

Divine Capacity

We have so far investigated what is involved in the claim that God created *ex nihilo* if we understand possibility as being correctly analysed in the way explored by Peirce and Hartshorne. We also suggested at the end of the last chapter that continua are not separate from God, but are to be somehow identified with the divine capacity or power to create. What I intend to do in this chapter is, first of all, look at the notion of capacities or powers and then investigate how an identification of God's capacites with a continuum analysis of possibility could be maintained. Is it possible to see the divine capacity to create as being susceptible to continuum analysis? Is it possible, that is, to understand God's power as a kind of continuum? We will look broadly at the relationship between omnipotence and this notion of divine capacity.

There is a general suspicion about capacities in much philosophical thinking. For example, Hume generally identified capacities with their exercise.[112] An exercise of a capacity is an observable thing and for that reason more or less unsuspect, but a capacity to do something may never be realized and so never observed. I may have the latent ability to learn Greek, but this latent ability may never be exercised. What kind of sense therefore can be made of the notion that I have this latent ability? It seems tempting to say that they are some kind of occult entity that should be dispensed with in a proper scientific analysis. Yet it seems they cannot be so easily dispensed with. Few would claim that a particular sugar lump does not possess the capacity to be dissolved in water just because it was never (and never will be) immersed. A straightforward reduction of capacities to their exercise does not capture all we want to say. Peter Morriss, in his book *Power: A Philosophical Analysis*, forcefully argues that such a reduction is impossible and indeed, not even desirable. Capacities, he says, provide a stable background that unifies the world of experience. The dissolving of the sugar in water is not an isolated event, but one that can be generalised by way of a claim as to its

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[112] See, for example Hume's *Treatise*: 'The distinction which we often make betwixt *power* and the *exercise* of it, is...without foundation' [Book 1, part 3, section15. Emphases in original.].

capacity to dissolve. The capacity does not explain the dissolution, but is part of that stable background of beliefs that give structure to the world [p14-19].

As well as arguing against the idea that capacities are to be reduced to their exercises, Morriss investigates and dismisses another analysis of the nature of capacities. This is the thought that capacities of a thing can be identified with the *structure* of the thing in question. Quine makes this move:

> [We]...introduce a theory of subvisible structure. What we have seen dissolve in water had, according to the theory, a structure suited to dissolving; and when now we speak of some new dry sugar lump as soluble, we may be considered merely to be saying that it, whether destined for water or not, is similarly structured. [Quine 1960 p223, quoted by Morriss 1987 p18].

Morriss argues that such an interpretation of capacity does not make much sense. Consider a person who can speak French and one who cannot. Is it helpful to assume that one has a different 'subvisible structure' to the other? Certainly they have different capacities or powers, but the notion that this is reducible to subvisible structure is to make an empty claim. For Morriss, capacity, or power, or disposition is not grounded in anything deeper. Naturally, however, certain structures can provide *evidence* that an entity has certain capacities. The case of a lion is an amusing example that he gives. I can see from its jaws and its rippling muscle that the lion I confront is capable of eating me. But this is evidence of its capacity; it is not to be identified as the capacity itself [p16-18].

Morriss concludes:

> So power as a dispositional concept, is neither a thing (a resource or vehicle) nor an event (an exercise of power): it is a capacity. And dispositional concepts are perfectly respectable ones that we do not need to replace by concepts of some other sort. [p19][113]

[113] Morriss seems to think that the phrases 'dispositional concepts' and 'dispositional properties' are more or less interchangeable - at least this is how he uses them. On p13, however, he says, "Power, then, I claim, is always a concept referring to an ability, capacity or dispositional property." In the above quotation the best reading is that he is promising that when he refers to dispositional concepts he is always talking about dispositional properties. So dispositional properties of things cannot be reduced to anything else and so neither can dispositional concepts by virtue of their referring

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Plato, in *The Republic*, seems to follow a very similar analysis of the nature of powers or capacities. He says,

A power has neither colour nor shape nor any feature of the sort that many other things have and that I use to distinguish those things from one another. In the case of a power, I use only what it is set over and what it does, and by reference to these I call each the power it is: What is set over the same things and does the same I call the same power; what is set over something different and does something different I call a different power. [V, 477d Trans: G.M.A. Grube]

Here he says that powers cannot be individuated by colour or shape or indeed any of the other individuating features that many other things have. Instead they must be individuated by what they do - what emerges from their exercise. The train of Plato's thought here seems inimical to the reductive analysis of capacities we have just considered - the idea that capacities just are to be identified with their exercise or, to follow Quine, with certain types of subvivible structure. Capacities are seen as a *sui generis* category - one where the ordinary individuating notions like colour or shape do not apply. Powers are individuated by what they do. We might note, in parenthesis, that this is very similar to the Peircean notion that continua are rule-bound. Once the exercise of a capacity has been enjoyed it can be seen as rule bound - *this is the kind of thing which emerges from the exercise of that capacity*. Before the exercise of the capacity, the exercise itself is not there to serve the function of individuator.

Morriss goes on to develop a complex taxonomy of power. We do not need to look at every aspect of this: some highlights will do. He makes an important distinction: those powers that are intimately bound up with volition he calls 'abilities' and leaves the word 'capacity' for those powers that are not. For example, Morriss uses an example from Kenny to make his point. Suppose I am within earshot of a conversation taking place in French. If I understand French then it is not within my power not to understand the conversation. This kind of power we might call a passive power: one that happens to me, rather than one I will to do. So as I sit near this conversation I have the passive

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function. But I wish Morriss would not keep switching back and forth between power as a concept and power as a dispositional property - it does not help the clarity of his argument.

power (or passive capacity) to understand the conversation. I also have the active power to whistle to myself so that I cannot hear about their disappointing fascination with Derrida. This active kind of power Morriss calls an ability. An ability "involves in some way an act of will." [p25].

He then goes on to divide abilities into three classes: epistemic, non-epistemic and latent. An epistemic ability involves knowledge. To do *The Times* crossword is an ability of this kind. It does not just involve me having to have the strength to lift a pen, but it also requires that I know or understand the conventions commonly used by writers of cryptic clues. Having the ability to lift my arm towards the page would count as a non-epistemic ability, since normally it would not require me to have any knowledge. It is just something I can do without any knowledge.[114] A latent ability is a second order ability. It is the ability to acquire an ability. I do not know Greek, but I am sure that with suitable training, I could become at least competent. I have the ability to learn or acquire the ability to speak or read Greek. At the moment, however, my ability is latent.

Gijsbert van den Brink in *Almighty God* concurs with many of the points that Morriss makes, in particular the idea that power is readily analysed as dispositional:

> ...power is basically a dispositional concept, referring to abilities and capacities. It is a peculiar feature of dispositional statements in general that although they do refer to separate observable facts, they nevertheless are meaningful and can even known to be true. We may know that a cup is fragile, although it has never broken. [Brink 1993 p126]

The volitional or choice based nature of abilities as a special class of disposition is also seen by Brink as something worth noting. Ordinary (non-volitional) capacities are usually written in conditional form: (to use Brink's example) "if zinc is dropped into sulphuric acid, it dissolves, if this cup falls to the ground, it breaks." When, however,

[114] It seems that Morriss wants to see the exercise of basic actions as involving non-epistemic ability. My answering a cryptic crossword clue involves some string of basic actions and in that sense it is non-epistemic, but I have to know which string of basic actions to employ if I want to answer the clue correctly. Choosing which string of basic actions involves the agent's knowledge. There could be cases where we would consider the lifting of an arm as an epistemic action. If I had a stroke, I might have to learn how to use my arm again. The physiotherapist would give me hints and guidance so that I slowly learnt how lift my arm. In this case, it seems correct that my act of lifting my arm should be described as epistemic.

one wants to talk about human abilities: one wants to add the antecedent clause about the "person's choosing or deciding or trying to do the thing in question."[p127]. So I might say in an odd moment of whimsy: I will wax lyrical if I choose to do so. My ability to wax lyrical may be a natural trait, or learned after years of practice, but the exercise of that ability is seen as being intimately bound up with choice or volition.

We have been making rather free use of the word 'power' in the preceding discussion. It is time to have a look at this concept. The notion of power has very much been at the forefront of debate in the social and political sciences. Obviously it can be very much a political idea. Where does the power lie in society? If one person gains power do others lose a corresponding amount? Is political power to be defined as the legitimate use of physical force? I do not think it is appropriate to investigate the political dimension of power except to consider a valuable distinction that is often used. Consider my role as a schoolteacher: I have a certain amount of power in the classroom. Is this power best conceived as 'power to' or 'power over'? The two locutions 'power over' and 'power to' are both commonly used expressions in the language. The locution 'power over' clearly points to a relationship . If I am a teacher I am meant to exercise authority[115] over my pupils. Now the notion of power-over has been popular in political theory since it obviously translates well into other types of language. It sounds oppressive and tyrannical as if all power is dictatorial. Brink argues, however, that "power-*over* vocabulary is quite naturally translated in terms of power *to* accomplish things." [p121 emphases in original]. So my power over my pupils can be seen as my ability to get them to do things. I have the power (I hope) to help them enjoy Shakespeare, for example.

This distinction is especially important in contemporary philosophical theology ever since Peter Geach wrote his essay 'Omnipotence'.[116] In this essay, he argues that God's power should not be taken as referring to God's alleged ability to do all things (i.e., omnipotence), but as saying God has power over all things (i.e., almightiness). The idea of being able to do all things leads to paradoxes and contradictions claims Geach. The concept of almightiness, on the other hand, is another much less problematic notion and does not lead to the "intractable problems and hopeless confusions" consequent on the

[115] Brink looks at the relationship between authority and power [129-133], but in the sentence above we can read them as being virtually synonymous.
[116] Geach 1973 p7-20. Also in Geach 1977 p3-28.

acceptance of the notion of omnipotence. The concept of almightiness, as Geach understands it, has a much narrower range than the concept of omnipotence. Whatever is, God has power over. He can control it, do what He wants with it. The idea of being able to do all things, however, leads to such famous enigmas as, 'can God make a stone He cannot lift' and the such like. Brink calls the notion of almightiness A-power and the notion of omnipotence C-power. He also distinguishes a third type of power: B-power. It is to this tripartite distinction that we now turn.

A-power (power as authority) is God's role as "all-ruling, all-sovereign Master of the universe, the Most High." Brink notes that this meaning of power is the biblical meaning of *pantokrator*.[117] B-power (power as back-up) refers to God's preservation and sustaining of the universe: it may be understood as His provident power. C-power is God's capacity "to realize all possible states of affairs." The notion that there is nothing impossible for God is covered by this aspect of power. Now it is A-power that Geach accepts as consonant with Christian notions of God, while the notion of C-power he sees as a philosophical intrusion. Brink argues against this. In a wide ranging historical excursion, he tries to show how all three aspects of the idea of God's power are an integral part of the Christian faith. His conclusion is as follows:

> ...neither A-power nor B-power nor C-power can be discarded as a later intrusion in the early Christian belief in God and the doctrine of God. Rather, all three of them formed an integral part of both. [p62]

Let us turn our attention to an evaluation of these ideas. It seems to me that if we accept, without due qualification, Brink's definition of C-power as God's capacity "to realize all states of affairs" we run into problems - at least as far as this thesis is committed to a type of ontological scepticism concerning possibilia. Geach's definition is less committed in principle to the existence of possible states of affairs. As I said, according to Geach's definition whatever *is*, God is able to control. God is sovereign over the realm of the actual. If, however, we understand the possible to be understood as grounded in God's capacities (which is what is being argued here), then, we can say that God is sovereign over those capacities. These capacities, whether exercised or not, still exist and God is sovereign over them. Thus God is supreme over the actual (the

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[117] This is the word coined by the translaters of the Septuagint as a "universalisation of the Old Testament title 'Lord of Hosts (of Israel)' (YHWH *Sebaoth*)." [Brink p48. See also 50-67 on the relationship between *pantokrator* and the latin word *omnipotens*.]

determinate) and the possible (the indeterminate) - the actual is to be understood as God and all that He creates - the indeterminate is to be understood as God's powers which before exercise contain no pre-existent instances of their realizations. Let us explore this further by looking at how this understanding differs from that given by Peirce and Hartshorne.

In the Peirce/Hartshorne analysis, continua are separate from God. That is, He looks towards a separate realm in His contemplation of possibility. The charge that this places something external to God on which He has to rely is mitigated by the fact that there are meant to be no individuals 'contained' within each continuum. Be that as it may, I think my proposal is better because it does not place anything at all outside of God and therefore conforms more readily to that theological desideratum which tries to say that God relies on nothing outside Himself. It is also intuitively plausible to consider capacities indeterminate until exercised. It makes, I suggest, the claim that possibility is subject to continuum analysis more intelligible. As we have seen, Morriss and Brink both think that capacities are irreducible properties of things. They are not to be reduced to their exercise.

So what do we have here? What are the proposals being proffered? First, we do not want God looking toward a ground of possibility outside of Himself. Whether this ground is envisaged as determinate entities like possible worlds or as indeterminate continua, there is still the unwelcome consequence that God has to draw from something external to His being in order to effect a creative act. To avoid this, we identify God's creative capacities with possibility itself. He is the ground of the possible. Second, we want to say that possibility is indeterminate. If, however, possibility is rooted in God's capacities or powers we have, I think, lent more credulity to the notion that possibility is indeterminate. Capacities do seem indeterminate in the sense that it is difficult, for example, to understand a sugar lump's capacity to be dissolved as somehow to be identified with a shadowy collection of determinate exercises of dissolution which somehow wait to happen. Capacities, that is, are not reducible to their exercise. Thus when Adam was created we might say God exercised His capacity to create rational beings. God has always had this capacity. It was always within his ability to create creatures capable of rational thought, but that in no way implies that created rational beings were already there. To say this, as I have argued, is

to denigrate the sufficiency of God's power. He does not need an Adam-who-is-already-there to create him from nothing. Before Adam was created, he did not enjoy a determinate, but non-actual existence in some kind of divine shadowland.

Indeed, it seems to me that the analysis pursued here comes very close to the mediaeval notion that God is pure act. What is meant by this notion is (at least partly) that there are no passive or potential things in God. If there were potentialities in God, He could be better since He could realize those potentialities. Thus the idea of pure act - *actus purus* - is an attempt to give proper recognition to God's uncompromising perfection, the fact that he does not need creation to be who He is. Arnauld puts forward a similar idea in his correspondence with Leibniz. He complains that Leibniz's theory deprives God of choice in creation since as soon as He chose to create Adam, all the history of the world flowed out of that creation independently of the divine decrees. This follows from the idea that all Adam's predicates are contained within him, including those of his posterity. Arnauld argues that we should not conceive of creation in this way: God does not choose between competing possibilities since this would imply that there was something potential in God, which would contradict the notion that God is pure act. Let me quote Arnauld:

> ...I acknowledge in good faith that I have no idea of substances purely possible, that is to say, which God will never create. I am inclined to think that these are chimeras which we construct and that whatever we call possible substances, pure possibilities are nothing else than the omnipotence of God who, being a pure act, does not allow of these being a possibility in him. Possibilities, however, may be conceived of in the natures he has created, for, not being of the same essence throughout, they are necessarily composites of power and action. I can, therefore, think of them as possibilities. I can also do the same with an infinity of modifications which are within the power of these created natures, such as are the thoughts of intelligent beings, and the forms of extended substance. But I am very much mistaken if there is anyone who will venture to say that he has an idea of a possible substance as pure possibility...I am convinced that, although there is so much talk of these substances which are pure possibilities, they are, nevertheless, always conceived of only under the idea of those which God has actually created. We seem, therefore, able to say that outside of the things which God has created, or must create, there is no negative possibility but only an active and infinite power. [Letter to Leibniz May 13th 1686, trans G Montgomery]

Arnauld is saying that there are no possibilities in God's mind, only an active and infinite power. Thus Leibniz is wrong to assume that God chose between possibilities that were contained in His understanding. What is imagined to be possible, says Arnauld, are not possible things but conceptions based "only under the idea of those which God has actually created". Thus what we see or imagine as possible is based on the actualities of the determinate things that have been created. This position seems at least close, if not identical, to the position I am defending. Now if Arnauld had been able to talk about continua in the sense advocated by Peirce, He might well have thought of God's "active and infinite power" as a continuum without parts, wholly integrated and one, instead of broken down into members, some of whom languish as mere possibilities.

Arnauld's position seems, then, remarkably close to the idea that I am attempting to pursue. Prior to creation, there are just God's power or capacities. There is no-thing potential in God. Arnauld is thus right - *there are no pure possibilities*. There are no essences of possible Adams. The son I never had is not somehow in God waiting in vain for his realization. What God does have is an infinite capacity to create. If God chooses not to create, what is potential in God that has not been realized? Nothing. One might say, what about the capacity itself? Is that not eternally potential? No, the non-exercise of a capacity, as we have seen, affects the capacity not one iota. The capacity of the sugar lump to be dissolved is not affected by its never dissolving. Its dissolving is not an determinate item waiting in vain to be effected. By not creating, God remains who He is. By not creating, God's perfection is not compromised by a set of determinate possibilities jostling restlessly in His mind. I do not want, however, to uphold all that is implied by the notion of God as *actus purus*. It seems to me that as soon as God creates there is change in God - He sees new items, has new experiences. So I do not uphold the notion that God is changeless. What I do uphold - and here I think the insight of God as *actus purus* is correct - is the notion that God's perfection is not adversely affected by the non-presence of the world. The world's non-presence is not the unrealized potentiality of a thing. Likewise, the creation of the world is not the actualization of something potential.

When it comes to talk of possible things, we are so blinded by the word 'thing' that we immediately think that in some sense the possible thing exists as a determinate item. If

it were not determinate *sub ratione possibilitatis*, then, how can we say this very actual thing (which is certainly determinate) was possible? We are not so tempted to say this when we come to the idea of capacities: I exercise my ability to write a novel. No one thinks that because that very ability has been employed the realization of my capacity must always have been there as a determinate item. (We only know roughly what the novel may be like since we have seen past determinate instances of exemplifications of novels.)

It seems to me that the appreciation of the reality of capacities also leads to a better understanding of the ontology of substance and event. Heraclitus thought that process and change were the fundamental constituents of reality, but Western metaphysics has generally thought that things or substances are the bedrock of reality. Nouns rather than verbs have been the predominant focus as philosophers try to give an account of reality.[118] Nevertheless, as Nicholas Rescher has shown in his book *Process Metaphysics*, the idea of process being the fundamental key for metaphysical understanding has been an influential subcurrent.[119] The idea that leaving process out of the equation is a mistake seems to be an attractive idea. The world is not a static unit, but a living, changing conglomeration of change and process. Now part of the reason why such a philosophical position (i.e., processism) has not been generally well received in philosophy is that processes do not seem stable enough. Plato was a processist of sorts - the world was a series of becomings, but in order to have the stability and permanence he thought necessary for rational understanding, he theorized that there must be a world beyond ours where being rather than becoming was the essential characteristic.[120] It seems to me that capacity is the kind of characteristic of

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[118] Look, for example, at western logic: according to the predominant view, the semantic interpretation of the symbols of logic is substantive - that is, in the statement, 'for all x, x is f' what is being quantified over is a substance. This need not be the case. As Rescher shows, it is possible to have a semantics of quantificational logic that ranges over processes [Rescher 1996 p175-182]. Donald Davidson proposes something of a similar nature in his essay 'Actions and Events'.

[119] Rescher looks at Heraclitus, Plato, Aristotle, Leibniz, Hegel, Peirce, James, Bergson, Dewey, Whitehead and Sheldon as proponents of process philosophy of some kind. Process philosophy is a complex phenomenon, with many different emphases and characteristics, but they all share the same idea that somehow change or process is a fundamental feature of reality. In order to have a grip on what view of reality process philosophy is reacting against, one might read Peter Strawson's book *Individuals*, which tries to show that substantial things are the metaphysical bedrock of reality.

[120] See Rescher1996 p10-12.

things which takes seriously the idea that both permanence and change are dual necessities for an adequate metaphysics. Capacities are not processes and they are parts or properties of substantial things. But they 'point forward' to their exercise - they are the 'appetition'[121], the inner drive of change. But it does not seem appropriate to view capacities as things as if they are concrete entities of a certain sort as Quine tries to do with his notion that capacity can reduce down to subvisible structures. The idea that capacity is determinable but not determinate shows this. They are not things which have a determinate nature like physical things. Nevertheless, once exercised the capacity is realized in a certain rule-bound way. Furthermore, it need not be exercised; its non-exercise leaves no-thing unrealized.

This is where we part company with process theology's view of God. This theological position sees process as extending its claim to be a fundamental part of metaphysics even to the notion of God. So even God is not a 'thing', but a kind of Heraclitean fire actively engaged in process. Indeed, without process and activity God would/could not be. All things are necessarily in a process of change. This seems to imply that some kind of creation has always been, that God has always been realizing His capacity to create, that, without creation, God cannot be who He is. However, it seems to me that a capacity can exist without ever being realized. And so God can exist and yet not create. As we saw before, the notion that God is pure act tries to disallow the picture that there are unrealized potential things in God. The notion of a continuum has within it the conceptual resources to accommodate the full reality of God before creation and the notion that He created and made a world that was until then no part of His being as a determinate entity.[122] God did not have within him this world already there in some sense - what God did have was the capacity to create.

As we have seen, the continuum notion of possibility does alter the traditional notion of God's omniscience (although, of course, I have argued it does not destroy it). God cannot know what a particular capacity will produce, except perhaps in a general way. He cannot examine Adam before he is made, in order to see if he is a suitable candidate

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[121] This is Leibniz's word for a monad's inner compulsion to change: a monad is not a substance, but more like a bundle of energy. See Leibniz *Monadology* Sections 13 and 15. Also see Rescher's commentary on these sections in Rescher 1991.

[122] We will be pursuing the separateness of creation from creator in the next chapter.

for creation. Only when a particular divine capacity is exercised is a determinate entity produced - only then can God see what it is like.

Such an analysis, I think, has many theological virtues. It does not admit a separate world of forms to which God must look in order to create. It keeps the nothing of *nihilo* as ontologically austere as possible. The idea that there are not continua *and* divine capacities but that God's capacity to create is modelled on the notion of continua ensures that God is self-sufficient. God does not have to look outside of Himself - the resources of creation are internal to God. He just exploits His powers and the world is made out of nothing.

In the next section of the thesis, we turn to an examination of providence. What effect does the account of creation we have been developing have on our understanding of God's plans, intentions, His general ordering and interaction with creation? We shall find that the idea that in possibility nothing is determinate, has other definite theological advantages - it allows a healthy, proper separation of creator from creation; it allows a model of providence which makes God's relation to the world much more responsive and interactive. We can, also, begin to point to some answers about the problem of evil. More generally, we can, at last, move away from the idea of God as a static, timeless unit towards the idea that God is personal and energetic. We now turn to these matters.

Part Two
Providential Aspects of Creatio ex Nihilo

Chapter 7

Theories of Providence

In the opening chapter of this part of the thesis, we steer the course of the argument towards more traditional theological territory. We shall first examine what kind of theory of providence the determinate conception of possibility encourages or even implies. We shall look at Leibniz's theory of providence to begin with since he has his own fully worked out and elaborate system. It may seem to the historically minded rather unusual to look at Leibniz first when there are other similar theories that pre-date him. However, my excuse, if excuse be needed, is that Leibniz's invention of the notion of possible worlds gives him primacy in a thesis which principally concentrates on that idea.

Leibniz's mature thought about providence and how it relates to the problem of evil and other related matters is to be found in his *Theodicy* of 1710. Here he tries to show how evil can be reconciled with the existence of a good God who can foresee all that will happen.[123] A major argument of the book is that God's decisions are made in the unavoidable light of the will-independent 'eternal verities'. This is the idea that there are laws governing the operations of logic and reason that are independent of the will of God. It also is the idea that there is a region of eternal essences or ideas that are located in the region of God's understanding. It is in the logically unavoidable nature of the 'eternal verities' that the origin of evil is to be found. The ancients, comments Leibniz, found the origin of evil in the recalcitrance of eternal matter, but Leibniz locates the origin of evil in the logically unalterable nature of the concept of a finite being.[124] A

[123] The notion of providence and the notion of foreseeing events are closely related. Indeed, the latin roots of the word 'providence' - *pro-video* (seeing before) - clearly show this. God can provide and plan for the events that happen since He is a position to know what will happen. See Langford's book *Providence* for an interesting analysis of different types of providential care: esp p5.

[124] *Theodicy* p136: "The ancients attributed the cause of evil to matter, which they believed uncreate and independent of God: but we, who derive all being from God, where shall we find the source of evil? The answer is, that it must be sought in the ideal nature of the creature, in so far as this nature is contained in the eternal verities which are in the understanding of God, independently of his will. For we must consider that there is an original imperfection in the creature before sin, because the creature is limited in its essence; whence ensues that it cannot know all, and that it can deceive itself and commit other errors." [Trans E. M. Huggard 1985]

finite being, by its very nature, cannot but be devoid of absolute perfection and so, in as far as it falls short of that perfection, the way to evil is opened up. There is a kind of unavoidable 'dragback' in anything which falls short of God's infinite nature and perfection. This 'dragback', being a kind of privation,[125] is not caused by God but is a logically inevitable consequence of the decision to create anything at all. In a striking metaphor using the concept of a boat's inertia, Leibniz claims that the retarded motion of some boats is not caused by the river which pushes them along, but by the nature of the boats themselves. He asks us to consider "various boats, which differ among themselves only in the cargo, some being laden with wood, others with stone, and some more and others less." If we were to put these boats on the same river we would see some going more slowly than the others. This is due not to weight but the differing inertia of the bodies (what we would call the mass as opposed to the weight of the boat). The cause of the bodies' motion is the river, but the relative speed or lack of it is due to the nature of the matter itself:

> It is therefore matter itself which originally is inclined to slowness or privation of speed; not indeed of itself to lessen this speed, having once received it, since that would be action, but to moderate by its receptivity the effect or impression when it is to receive it. [p140]

Thus God gives motion to us, but we are the source of the way in which this motion is received.[126] In so far as we actually move, this is entirely attributable to God, but our slowness is not caused by God - this is due to an unavoidable limitation on our part, the way in which the motion is modified by the recipient of the cause. Leibniz explains,

> The current is the cause of the boat's motion, but not of its retardation; God is the cause of perfection in the nature and actions of the creature, but the limitation of the receptivity of the creature is the cause of the defects there are in its action. [p141]

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[125] The idea that evil is a privation goes back, of course, to Augustine and even further back to Origen and Athanasius - see Stead 1994 p241.

[126] As we shall see below, the notion that created things themselves have active or passive causal powers is not accepted by all. Malebranche certainly rejected the notion that anything had active powers of its own. Berkeley rejects the notion that anything has either active or passive causal powers [see Freddoso 1988 esp p97-99].

Thus when God decided to create a world - any world at all - evil was unavoidably going to be.[127] This notion plays a foundational role in Leibniz' defence of God's justice in the light of the existence of evil. This kind of privation, present as it is in the very notion of finitude itself, he calls *metaphysical* evil. It is the original source of other the other types of evil: physical evil (e.g. pain) and moral evil (e.g. sloth).

Combined with this set of ideas is Leibniz's most notorious doctrine: that this is the best possible of worlds. Let us investigate this notion. God, in His most perfect and rational management of all things, has instituted a world that maximises the three species of goodness: metaphysical, physical and moral goodness, the opposites of the evils mentioned in the last paragraph [see Rutherford 1995b chapters 1-3.]. Thus God's providence is the best that there possibly is: He has seen before (pro-video) and made a world which maximises all three types of goodness. By metaphysical goodness, Leibniz means perfection in essence or unlimitedness. Given this definition only God has perfect metaphysical goodness for only He is unlimited and perfect in essence. However, creatures can have their own limited metaphysical goodness as they imitate or reflect the divine [Ibid p.25]. So in as much as anything has being, it can be called good in this metaphysical sense. But this goodness comes in degrees for things are more or less limited. As we have seen, only God is unlimited and therefore has complete and perfect metaphysical goodness.

Physical and moral goodness can only be attributable to intelligent or rational beings, metaphysical goodness, on the other hand, is attributable to anything that exists. Physical goodness, for Leibniz, can be identified with pleasure, while moral goodness is virtue. It might be thought that given this triad of distinct types of good, Leibniz's theodicy would hinge on how there has to be a trade-off between them and so some kind of compromise with evil is logically unavoidable. Indeed, Leibniz believes that the world was not just made for the sake of pleasure and virtue and emphasises how sheer variety and scope of being is, in itself, a good. He says that the best possible world is one in which there is the greatest possible quantity of essence:

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[127] Leibniz uses another distinction to bolster his case. God *antecedently* decides to create a world. The inevitable *consequence* (metaphysical evil) is no part of the antecedent intention. See *Theodicy* p136-137. Also Rutherford 1995b p 11.

From this it follows that all things which are possible, or express essence or possible reality, tend by equal right towards existence in proportion to the quantity of essence or reality which they include, or in proportion to the degree of perfection which belongs to them; for perfection is nothing else than quantity of essence.

Hence it is seen to be most evident that out of the infinite combinations of possibles, and the infinite possible series, that one exists by whose means the greatest possible amount of essence or possibility is brought into existence. ['On the Ultimate Origination of Things' (1697), trans Morris in Parkinson 1973. Quoted in Rutherford p23].

Now if we identify the best possible world as that world which has the greatest possible amount of essence, then surely there has to be trade-off, surely, that is, human happiness or pleasure has to be compromised to ensure maximization of being. Leibniz's own words in his *Theodicy* compound the temptation to go down this road. He talks about the smallness of man in the universe, how we just do not see the whole infinite picture of this maximally rich universe:

...it must be acknowledged that there is an infinite number of globes, as great as and greater than ours, which have as much right as it to hold rational inhabitants, though it follows not at all that they are human...It may be that all suns are peopled only with blessed creatures, and nothing constrains us to think that they are damned, for few instances or few samples suffice to show the advantage which good extracts from evil. Moreover, since there is no reason for the belief that there are stars everywhere, is it not possible that there may be a great space beyond the region of the stars? ...What will become of the consideration of our globe and its inhabitants? Will it not become something incomparably less than a physical point, since our earth is as a point in comparison with the distance of some fixed stars? Thus...it may be that all evils are almost nothingness in comparison with the good things which are in the universe. [Theodicy, trans E Huggard p134-135].

However, it is a mistake to believe that Leibniz asserts some kind of limitation on human happiness as the necessary component of a maximally metaphysically rich universe. Indeed, the very opposite is the case. A maximally rich universe is a necessary component in the maximization of human happiness. Rutherford argues that, for Leibniz, it is the fact that this world is the most metaphysically rich that makes it a world in which intelligent beings can gain the most happiness.[128] Rutherford explains,

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[128] Rutherford points out that some commentators have a different interpretation of Leibniz [p22-23]. Rescher, for example, believes that the world is essentially a compromise between the maximization of metaphysical richness and simplicity of laws; the two conflict and so there has to be some kind of trade-off. Both are maximized but

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Accepting Leibniz's definition of pleasure as the perception of perfection, and his definition of happiness as a lasting state of pleasure sustained through the exercise of reason, we can see God's creation of the world of greatest perfection and harmony as satisfying a necessary condition for the maximization of happiness. At the very least, we can infer that in no other possible world would the objective conditions for the happiness of minds be as propitious [Rutherford 1995 p51].

Leibniz is not so crude or unrealistic as to assert that we are maximally happy all the time. He believes that this moment, for example, is a necessary, but temporary condition that contributes towards the most perfect universe seen not only as part of a greater spatial picture but also as a slice of a greater temporal whole. We are in a world whose richness we can explore and be forever finding new laws and more beautiful simplicity in the most breath-taking variety:

Thus in producing the world of greatest perfection, God is inclined to create minds which have the greatest potential for knowledge, reserving their final enlightenment and the final perfection of the universe as a whole, for some distant future. [Quoted by Rutherford p52].

In the *New Essays* he has Theophilus assert,

I am inclined to believe that [pleasure] can increase ad infinitum, for we do not know how far our knowledge and our organs can be developed in the course of the eternity that lies before us. [Quoted in Rutherford p52]

The notion that happiness is merely *optimized* is, then, rejected. Happiness is *maximised* as is variety of richness of being. All is governed by the simplest laws. Most, of course, find Leibniz's assertion that this is the best possible world wildly implausible. I agree,[129] but what is impressive is the way Leibniz harmonizes all his conceptions

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taken separately without regard for the other, each could be maximized further. Rutherford sees no such conflict - indeed, the maximization of metaphysical richness underpins maximum simplicity of laws governing that richness. The two are complementary not antagonistic [p24-34]. For a similar reading about the nature of relationship between law and variety see Blumenfield 1995 p382-410.

[129] It might be objected here that considerations of plausibility and implausibility only gain their sense when other possible alternatives have been considered. But that is

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together to form a coherent whole. In any case, the charge of implausibility, while an important accusation, is hardly an argument. An argument against Leibniz' position will come later. Let us for now examine the main threads of the picture we have been presented with.

The central idea underpinning much of Leibniz's theory of providence is his theory of divine ideas. God is able to examine the complete specification of determinate possible individuals and the worlds they inhabit.[130] He is able to see what is compossible with what - what harmonizes with what. Using the determinate conceptions of his understanding, he is able to actualize a world where harmony is maximized with happiness - the best possible world. Of course, that God is able to peruse the possible is exactly what this thesis questions and in the rejection of that shall lie my argument against this theory of providence. However, before going in that direction, let us ensure that this style of providential theory is one held by major Christian thinkers. What we are looking for are theories that share the idea that God, in some manner, is able to peruse the possible so that He is able to think through his alternatives in creation. We

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exactly what cannot be done if possibilities are, as this thesis would have it, only indeterminate. Let me try to answer this charge. Considerations of the possible are, as we argued in Chapter 4, entirely parasitical on the determinate world which already exists. We can enter into debates about other possibilities in so far as we can talk about conceptions we come to possess through an interaction with the determinate world. Because I know there are apples, I can perform the mental feat of supposing what one would do were it to be dropped from a plane at speed. It seems wildly implausible, given all I know and the relations that are had between those known things, that the apple would simply float away. The same is true of suppositions like Leibniz's. Although far more complex, his considerations of the possible must be entirely built up from what the determinate, actual world is like - if that is we want to understand what he is saying. (Recall that this determinate, actual world contains mathematics within its provinces.) Ideas of plausibility and implausibility trade, therefore, on a complex interchange of considerations of actual things and their relations. This means that there is some content in modal speculations that keep things 'fixed' so that they are very like the real world - we know what we are talking about here. But we do not know what we say when our modal scenarios stray far from this actual, determinate world.

[130] According to some readers of Leibniz, individuals can only inhabit one world. (In Lewis' terminology there are no transworld individuals.) An Adam who was not the husband of Eve would have been a different individual. This follows from Lebniz's notion that every individual concept contains all its predicates. Moreover, every individual in a world mirrors that world from its perspective. In a different world an individual would have different perceptions and so would be a different individual. See Mates 1986 p76-78.

are not looking for theories that follow Leibniz in every respect. We do not have to look very far for theories that exhibit the kinds of features we are looking for.

Augustine

Augustine affirms the doctrine of *creatio ex nihilo*, although there is some dispute as to whether or not he entirely left his Manichaeism behind in his formulation of this notion.[131] What we need to focus on here is the extent of God's knowledge in creation in Augustine's thought and how that knowledge (or lack of it) affects his conception of providence. Does God know fully and determinately what He is to make when he creates or is there an element of indeterminateness in the creative act, such that at least some parts of creation are not knowable until actual? As with Leibniz, so with Augustine, the answer lies in his views about divine ideas. This is Copleston's view of Augustine's theory of divine ideas:

> From all eternity God knew all things which he was to make: He does not know them because He has made them, but rather the other way round: God first knew the things of creation though they came into being only in time. The species of created things have their ideas or *rationes* in God, and God from all eternity saw in Himself, as possible reflections of Himself, the things which He could create and would create. He knew them before creation as they are in Him, as Exemplar, but He made them as they exist, i.e., as external and finite reflections of the divine essence. [Copleston 1993 p72]

Here we might seem to have a statement to the effect that Augustine knows things determinately *sub ratione possibilitatis*. But several questions come to mind as we consider this statement of Augustine's position: Copleston mentions the word 'species' in his explanation - which prompts the question, does God know species, e.g., humanity and equinity, or does he know individual essences, e.g., Adam and Bucephalus? And if God can only know species, is not Adam, an individual idea, something God cannot know? Furthermore, the account clearly allies itself to the notion that relations of imitability serve as God's epistemological access to these ideas. This we have already

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[131] Colin Gunton says that in Augustine's doctrine of creation out of nothing he "continued to be marked by the scars of the Manichaeism from which he was so desperate to be healed." [Gunton 1998 p79]. That is to say, he still seems to be ambivalent as to whether the material world was created from absolutely nothing. but from a kind of created, but co-eternal intellectual heaven and earth. Although acknowledging the difficulties in the interpretation of Augustine in this area of his thought (p113), Joseph Torchia thinks that Augustine adopts a theory whereby the nothing of *nihilo* is really absolute non-being [Torchia 1999 p115-119].

considered. It seems to follow from any account that involves imitability that God's knowledge of creatures can only be hazy. Given these qualifications, can God, under Augustine's account, be said to know creatures determinately and clearly before creation?

As regards the question of Augustine's views about the general or specific nature of divine ideas, scholarly opinion seems divided. Christopher Stead comments thus:

> But if Augustine sees the Ideas as archetypes for all God's created works, does he think there is an archetype for each individual creature? Scholars have asserted that this is so [J. Meyendorf, *New Scholasticism*. 16 (1942), 36; VJ Bourke, 'Augustine's Views of Reality', 5, n.21]; but I do not find their arguments convincing. 'Each single thing is created by its own principle' says Augustine: *singula propiis sunt creata rationibus* (*Div. quaest 83*,46.20). But the context implies that 'each single thing' should be understood as 'each species'; Augustine has just used the standard examples of 'man' and 'horse'...it seems absurd to suppose that God had an ideal specification for each individual flea and every grain of sand. With human individuals it may be otherwise. [Stead 1989 p78].

Whether or not God has an archetype for each individual seems to be a specific question which cannot be determined by textual evidence.[132] As to the second question, Augustine did follow that line of thought that gives God knowledge of creatures through a consideration of how He Himself might be imitated. I do not know whether this made him think that God's knowledge could only be hazy. However, what we do know is that whatever the scholarly specifics, the whole impetus of Augustine's philosophy moves in the direction of God's knowledge of creation being absolutely determinate. In *De Genesi contra Manichaeos*, Augustine rails against those (like me) who think that creation was a kind of novelty for God:

> Did he, therefore, not know [that creation] was good, just because he was pleased with what he had made? Of course, he knows it interiorly in his mind, where the art itself is more beautiful than the things which are produced by that art. What the artist sees interiorly in the art, he tests externally in the work, and it is finished when it pleases the artisan. Hence, "God saw that the light was good," and these words do not mean that God found before him a good that he had not known, but that he was pleased by one that was finished. [Teske's translation 1991, Book One, 8, 13]

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[132] See, for example, *Eighty Three Different Questions* (46, 1-2) "Ideas are the primary forms, or the permanent and immutable reasons of real things, and they are not themselves formed; so they are, as a consequence eternal and ever the same in themselves and they are contained in the divine intelligence." [Quoted in Kenny 1979 p16].

Again the whole thrust of Augustine's theory of providence with its emphasis on predestination, places in God's mind a determinate picture of those to whom He will offer grace and those who will be declined that offer.[133] I think we are safe in assuming God's knowledge of creatures is determinate and complete. Because of the full determinacy of what God knows, his ideas of providence is largely Leibnizean. There are, of course, differences. Leibniz's principle of sufficient reason forces him in a different direction to Augustine. God is, so to speak, forced to actualize the best possible world. God is free to the extent that there are other possible worlds, but that He actualizes this one is necessary given His supreme goodness. In other words, we can know this world is the best possible one simply because it is actual.[134] If this world were, say, the fifth best one, what sufficient reason could there be behind its actuality? There would be an intolerable arbitrariness in its existence. Augustine does not follow Leibniz here; he is content that God's will be the highest court of appeal. In other words, he thinks that if God's will is subject to the principle of sufficient reason or any other principle, then, God's will becomes secondary to something else. It answers, so to speak, to another source of decision-making powers.

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[133] Christopher Stead is clear that Augustine is forced into the position where all that happens becomes determined by God. In his enthusiasm to refute Pelagianism, Augustine takes "up a position in which the grace of God becomes the sole's [*sic*] determinant of our actions." Augustine wants to maintain that we are free, "but for all his concern to uphold our moral freedom, he could not in the end concede that God had given man an absolute power to choose between alternatives, for this seemed to imply that a man could choose rightly by his own unaided effort." [p232 Stead 1994]. Some statements of Augustine seem to lead in a different direction. Thus in talking about the compatibility of foreknowledge and freedom, Augustine points out that foreknowledge does not imply that the foreknowledge causes the foreseen event to take place; the causal direction is entirely the other way - it is the foreseen event which causes the foreknowledge. Thus in *The City of God* he argues against Cicero who claimed that free choice and foreknowledge are incompatible. Augustine replies that our wills are not the empty receptacle into which God pours His own will; our wills are something: "It does not follow, then, that there is nothing in our will because God foreknew what was going to be in our will; for if he foreknew this, it was not nothing that he foreknew. Further, if, in foreknowing what would be in our will, he foreknew something and not nonentity, it follows immediately that there is something in our will, even if God foreknows it." [v,10 *City of God*]

[134] Leibniz says that if there were two equally perfect but distinct possible worlds, God would have no reason for preferring one to the other, and consequently neither would be actualized. See Blumenfeld 1995 p396.

There is another way in which Leibniz's theory of providence differs from Augustine's. Leibniz is prepared to say that some things happen, even in this best possible of worlds, outside of the will of God, whereas Augustine, except on occasions, exalts God's will to such an extent that nothing seems to happen that is contrary to it. Leibniz says evil is never a part of the antecedent will of God, rather it is only a part of His consequent will. Recall that the idea goes something like this: the good is antecedently willed by God. Each good thing taken separately is willed by God - it is a good, for example, that all should be saved and so it is willed by Him to be the case [*Theodicy* p136]. So God wills the best possible world, but in doing so it is a consequent that evil comes about. This, however, is not willed by God except in the sense that in willing the best, evil unavoidably arises since, as we have already seen, we are finite beings.

Leibniz allows, then, that God is, in some sense, conditioned by what He creates. This follows from the will-independent status of possibilia. As we saw in chapter 1, Leibniz, unlike Descartes, believes that the region of the possible is not dependent on God's will. God does not invent the laws of logic or decide what is compossible with what - these are part of the understanding, not the will of God. Thus God is forced to compromise - 'ideally' it would be better to have a world with no evil and with maximum happiness and variety of essence, but such an option although seeming to be possible is not logically possible. Given that God wants to actualize the best possible world, He is 'forced' to actualize a world where that which He does not want to occur actually does occur.[135] As we have already noted, Leibniz talks about how the platonic idea of

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[135] This notion of a necessity in the region of the possible reminds me of David Basinger's criticism of William Hasker's views about the risk-free implications of the notion of middle knowledge, i.e., the notion that God not only knows what I am actually doing now (present knowledge) and what I am going to do (foreknowledge), but He also knows what I would have done had things been different (middle knowledge). Hasker claims in *God, Time and Knowledge* that a God possessing middle knowledge is in such a strong position in regard to knowing what will happen that in creating He can ensure that everything that happens is something He wants to happen - thus he maintains that if God were in that position the "element of risk is eliminated entirely" [Hasker 1989 p198]. (Hasker himself rejects the notion of middle knowledge arguing that there can be no such thing if we allow that people have libertarian free will.) Basinger correctly points out that a God who possesses middle knowledge is vulnerable to the necessity of the possible - there may, for example, be no possible world where God can get me to do certain things without over-riding my (libertarian) free will [Basinger 1996 p41-48]. Sanders also makes this point. Perhaps, he says, his

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recalcitrant matter has been replaced by the logically unavoidable recalcitrance of the possible.

We have then the idea of a plan where the evil is unavoidable but incorporated into an overall scheme. This is a vital point. Some views of providence are so concerned to preserve a particular conception of God, that they are forced into the position of claiming specific sovereignty or meticulous providence, that is, the idea that God causes everything to happen - sometimes dubbed pan-causality [see Sanders 1998 p81-87]. God, according to this conception, is not conditioned by anything except His own will - thus the idea of a necessity attaching itself to God's providence of the world would be *odium theologicum* to such thinkers. Leibniz, however, rejects those views of God's providence where everything is willed in a more or less unqualified sense by God. Leibniz says, for example, there is "no absolute predestination to damnation" presumably meaning by this that the damned are condemned, but this condemnation is not part of His will. Yes, it is incorporated and permitted and made part of a glorious whole, but it is not willed.

Some modern commentators like to use the notion of risk in the categorisation of theories of providence. A theory of providence where God causes everything to happen in some sense or other or is not conditioned or made vulnerable to anything outside Himself is a risk-free theory, while those theories which maintain that God is conditioned in His providential care of the world by factors outside His will have a risk-view of providence. Some theories of providence contain more risk than others - Leibniz entirely eliminates risk in the sense that God is able to make the best possible world, but He is still contingent upon the necessity imposed by such laws as compossibility. However, it is very near a risk-free theory. Those who reject the view that God has foreknowledge in regard to libertarian free will are at the other end of the spectrum. Thus Hasker and Sanders and Swinburne would fit into this category.[136]

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son Caleb is afflicted by “transworld anti-car washing depravity” and there is no circumstance where he could get Caleb to clean the car freely. It follows from this that "The only degree of 'control' a God of middle knowledge has over a deity with simple foreknowledge or presentism is that he selects which world to actualize." [p198].

136 See Hasker 1989, Sanders 1998 and Swinburne 1998.

As I say, Augustine, despite assurances to the contrary, seems to come to a providential theory whereby nothing happens out of God's will and is thus entirely risk-free. This is best seen in his *ad hoc* explanation of a text like 1 Timothy 2:4 which states that God wants all men to be saved. This cannot mean what it says because not all men are saved. If God wanted all men to be saved, then, all men would be. Underlying Augustine's argument is, of course, the presumption that God's will is never thwarted. Thus he explains away the verse by stating that "all men" actually means "all kinds of men" [*Enchiridon* 26. See also 24].

We have briefly examined the providential theories of Leibniz and Augustine. Apart from Anselm, Aquinas is probably the next figure of first theological and philosophical importance, so we turn to an examination of his philosophy.

Aquinas

It is the view of Langford that Aquinas did immeasurable service to the western world by countering the fatalistic tendencies of Islamic philosophy. He did this by introducing the notion of secondary causation. God is the primary cause of all that is, but that does not mean that nature and mankind have no genuine causal powers of their own. God, in creating the world, has created something genuinely autonomous - the things that happen in it do not proceed inevitably by some kind of necessity. Indeed, it is right for us to seek explanation for what happens by looking at the causal powers in the nature of the things themselves. Thus we have room for non-theological explanatory schemes. Of course, Aquinas insists that primarily all is founded in God, but he leaves significant room for an autonomous nature [Langford 1981 p47-50].[137]

However, although the idea of secondary causation certainly contrasted with theories of Arabic philosophers and such western philosophies such as Malebranche's Occasionalism [see Davies 1992 p163], Aquinas' overall theology of providence leaves little or no room for real autonomy. Let us examine Aquinas' views to see why this is so.

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[137] See the discussion in Barbour 1990 p247-250. for a discussion of how this distinction has been developed in contemporary Thomism.

First we must look more closely at the distinction between primary and secondary causation. Davies gives the example of a bat hitting a ball [1992 p163]. The idea is that when a bat hits a ball "it is indeed the bat which sends the ball flying, though both bat and ball exist and undergo change by virtue of God." God, says Aquinas, works through intermediaries. We do not, therefore, make a mistake or show a lack of piety when we say that something in the created world caused something else to be so. Naturally we should not lose sight of the primary cause of all without whose presence nothing would exist at all. But the point is that the world has within it items whose causal powers are genuine and immediate reference to God is not always needed. Thus in the *Summa Theologiae* Aquinas says,

> God is at work in all creaturely activity, but not on his own without intermediaries, as if creatures were powerless to do anything themselves: as if fire didn't make things hot, but only God acting in the fire. That would deprive creation of all causal order and derogate the creator's power; for part of any agent's power is its ability to pass on power to act to its effects. What would be the point of giving powers they would never use? Or indeed of them existing at all, since activity is what they live for? So we must understand God to act in things in such a way that the things act themselves. [ia 105, 3, trans T McDermott].

Now in this distinction Aquinas has indeed found a way to allow for explanatory schemes other than the theological and thus done a service to science. However, when it comes to Aquinas' explanation of how this ought to be understood, there is doubt that these genuine causal powers can be said to avoid an overall theological determinism. He uses the analogy of a craftsman using a saw to make a box or bed. The craftsman is the Prime Cause; the saw is the instrument or intermediary (i.e. the secondary cause) He uses to achieve His end. But this model of workman to tool is inadequate.[138] A tool has no independent freedom to act and so no room for human freedom is left. And it seems

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[138] Barth uses a similar workman to tool analogy to explicate the nature of the relation between primary and secondary causation: we are the pen in God's hand [Barth 1958 vol3 part 3 p133. Quoted in Barbour 1990 p250]. In this context, John Macquarrie usefully distinguishes between 'monarchical' and 'organic' images for the exposition of the relationship between God and the world. In the monarchical models, God plans everything down to the last detail. As Arthur Peacocke observes commenting on Macquarrie's distinction, in the monarchical model the relationship between God and the world is asymmetric - "the world is dependent on God, but not God on the world; God affects the world, but not vice versa."[1993 p166]. We see a profusion of such asymmetric relational imagery in traditional accounts of providence. The worker to tool relationship is obviously asymmetric in that the tool has no choice over what it is to be itself and how it is used.

that, indeed, although Aquinas would vigorously deny it, his understanding of the relation between primary cause and secondary causes leads to the ousting of creaturely freedom. He argues that, although God controls everything, including human wills and decides what will happen, we are nevertheless free because God "has arranged [things so] that they function independently of the determining agency of other created things" [Davies p176].[139] Here Aquinas is working with a notion of freedom known as liberty of

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[139] The relationship between God's will and His providence is explored in an essay by Eleanore Stump 1990. She points out that Aquinas uses something analogous to Leibniz's distinction between antecedent and consequent will. Aquinas uses this distinction to show how in the occurrence of evil it is not the evil that God wills but the good. Stump gives the story of a doting mother and her wayward son, Aaron. "If she could, she would no doubt be glad always to live in happy harmony with her child; but when he engages in deliberate mischief, she wills to scold him. What is good absolutely considered, namely, that she be pleasant to her child, is not good in the circumstances in which he misbehaves: what is good in those circumstances is that she scold him." [p59]

Stump is clear that all things fall under God's providence: "What is certainly ruled out is that anything occur which is not part of God's providence, willed either as part of God's original plan for his creatures or as part of his consequent will warranting as good in the circumstances something he would reject unconditionally." [p65] The combination of these two ideas is that all things which are evil can be redescribed in such a way that God intends them as goods. (Stump rules out the idea that God can will evil so that good can come out of it). This seems to me to be tremendously implausible - it means that all evil things can be redescribed as good things that God wills to be. I do not doubt that the scolding of a son can be seen as a just and virtuous act, although appearing to be bad. But I doubt that every evil can be seen in this way. Of course, this is where I part company with these robust theories of providence. They think that nothing is really evil. Yes, it is evil on the surface - but deep down it is good and that is why God intended it. Stump herself admits that her approach to the problem of evil "apparently entails that nothing bad - nothing really bad - ever happens to anyone." The best she can do in reply is to say that all attempted solutions to the problem of evil must say something like this. Hasker notes that this response is "rather abrupt" and then goes on to make some of the reservations about her understanding of Aquinas that I make in the paragraph below [Hasker 1993 p108-109].

In any case, it seems to me that Stump's account implies that God's knowledge of what men do is contingent or dependent upon what they actually do. (Indeed any distinction that is made between the antecedent and consequent will of God needs to work with the idea that there is something outside God's will that is causing his will to be transformed from antecedent to consequent.) Thus the story of Aaron implies that his mischief is something his mother's will is contingent upon. Aquinas seems to endorse this idea: he tries to reconcile Paul's words "God desires all men to be saved and come to a knowledge of the truth." with his own Thomist notions: "God's will is the universal cause of all things; it is always effective." [*Summa Theologiae* 5, 19, 6] His solution is to say, "God's initial will is every man's salvation, but his justice may finally require some man's damnation." Thus God's antecedent will that X be saved is changed to the consequent will that he be damned. What changed this will, what caused God to

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spontaneity. If I am able to do what I want to do without interference from other "created things" then I am free. What could freedom be other than the liberty to do what I want to do? To my mind, this notion is simply not enough to support a genuine notion of freedom, especially if we add that God is manipulating wills in His providential way to make them want to do what He wishes.

I do not want to pursue the different notions of the relationship between human freedom and the divine will in any detail. I think that much of it is largely irrelevant to my thesis. My grounds for asserting that there has to be a different kind of relationship between the human and divine is largely based on other ground than freedom. I will, however, give one argument to show my overall position as regards these matters.

In an influential article called 'The Conceivability of Mechanism' Norman Malcolm asks us to consider the consequences of a complete neurophysiological account of human behaviour. What would happen if, that is, all human movement could be explained in much the same way as a machine's movement? For example, we see Henry climb a ladder: according to traditional explanation in terms of intention and desire (so called, 'folk psychology'), we say he is climbing the ladder to retrieve his hat. What, though, if all Henry's movements could be completely explained without reference to intention and desire; instead we explain his movements in terms of neurons firing, visual signals affecting the occipital lobe of the brain, muscles being stimulated by

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consider justice? Clearly it must be the man's behaviour. But this contingency of the divine will upon human behaviour is foreign to other Thomist prononcements. For example, Aquinas asserts that God's knowledge is not like ours not just in terms of extent but also in terms of logical priority between knower and known. What I know X, it is the case that X causes my knowledge. But with God, says Aquinas, it is God's knowledge that causes X. He says, "Since knowing and existing are the same thing in God, we can say that it is God's knowledge that causes all things (given the conjunction of his will)." [*Summa Theologiae* 4, 14, 11) Here God's knowledge is not contingent upon human will, rather human will is contingent upon divine knowledge. But will and knowledge are identical given Aquinas' endorsement of the doctrine of divine simplicity [see Stump and Kretzmann 1985]. So His will is not contingent upon human will, but this clearly goes against the grain of what Stump says, "Consequently, God neither wills that moral evils occur nor wills that they do not occur. Rather he sometimes wills to permit such evils to occur when human persons have chosen to do evil, because if he always failed to give such permission, he would be acting contrary to (and to that extent destroying) the nature of human beings.) [p62].

electrical signals..etc? What, in other words, would be the effect of treating Henry not as an intending, desiring person, but as a mechanism?

Some philosophers argue that there would be few or no consequences originating from a complete neurophysiological account of human behaviour since the language of purposivism and the language of mechanism belong to different levels of explanation - one might say, different language games. Thus, according to such a reply, the neurophysiological account explains movement while the purposive explanation explains action. There is no conflict between the two since they belong to different spheres of discourse or something of the like.

Now Malcolm argues that, although the two types of explanation are indeed different in logical form,[140] they nevertheless conflict if they are seen as trying to explain the same thing, i.e., the man's climbing the ladder. He gives a vivid example of the nature of the conflict:

> Suppose a man intends to open a door in front of him. He turns the knob and the door opens. Since turning the knob is what normally causes the door to open, we should think it right to say that he opened the door. Then we learn that there is an electrical mechanism concealed in the door which caused the door to open at the moment he turned the knob, and furthermore there is no causal connection between the turning of the knob and the operation of the mechanism. So his act of turning the knob had nothing to do with the opening of the door. We can no longer say that he opened the door: nothing he did had any causal influence on the result. We might put it in this way: because of the operation of the electric mechanism he had no opportunity to open the door.
>
> The man of our example could say that at least he turned the knob. He would have to surrender this claim, however, if it came to light that still another electrical mechanism caused the knob to turn when it did, independently of the motion of his hand. The man could assert that, in any case, he moved his hand. But now the neurophysiological theory enters the scene, providing a complete causal explanation of the motion of his hand. [Malcolm 1968 p137]

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[140] Malcolm argues that explanations in terms of purpose form an *a priori* set of non-contingent principles. That is, there is a connection in meaning between the man's desire to retrieve the hat and his climbing the ladder. There is no such semantic affinity between a neuron firing and a movement of a limb: the connection is contingent. This means that the purposive terms of 'folk psychology' cannot be proved to be false: all that can be done is that they are shown to have "no application to the world" [p132], which is basically what I am arguing here. According to Thomist presumptions, explanations which rely on the idea of finite free purposive action have temporary, earthly application; they provide explanations that help us to get on with our lives on a day to day basis, but they have no real, eternal application.

The example is all the more vivid for the insidious way it has the mechanistic explanation slowly ousting the purposive one until there seems no work left for it to do. I propose that if we replace the notion of mechanism for the notion of complete providence in the sense in which Aquinas (and, we might add, Augustine) understands it, we get to the same kind of point.

Imagine I am getting down on my knees and praying using the words of the *Book of Common Prayer*. I am, of course, doing this in the privacy of my upstairs room, so as to avoid making a public show of my humble piety. Unfortunately, I am espied by a window cleaner who just happens to be an expert in Thomist notion of providence. His first reaction upon seeing my earnest supplication is to use the purposive explanation that I intend to pray. He muses and realizes that my very existence is sustained by God's continuing creation or sustaining power. (No threat to purposive behaviour so far.) But then he realizes that my getting down on my knees was planned and willed by God from all eternity. Although I am a secondary locus of causation, God is the primary and it is by His Will (and so by His prime cause) that I pray. My getting down on my knees can, then, be ultimately explained by reference to the Lord of All. Here we are at the same point as the man turning the knob in Malcolm's story with the obvious difference that here we have a theological replacement of purposiveness instead of a neurophysiological one. There has been a complete and utter account of all that I am physically doing in terms of God's will and intention. In doubt the window cleaner hastily refers to his handy pocket edition of the works of Aquinas. In *De Potentia* he finds,

> The divine power must needs be present to every acting thing. God is the cause of everything's action inasmuch as he gives everything the power to act, and preserves it in being and applies it in action, and inasmuch as by his power every other power acts. [3. 7 Quoted in Davies 1992 p163-164].

Yes, the Thomist window cleaner thinks, his actions are on the surface actions of his own, but ultimately the true and deep explanation is that God wanted him to pray. The earthly explanation is that he is getting down on his knees to pray, the Heavenly Explanation is that God wants him to. He is the pen in God's hand, the saw in the Carpenter's palm.

As I said, here we are at the same point as the man opening the door. All has been explained away until there is nothing left but the bare intention to open the door or the desire to pray. Now in Malcolm's account, depressing though it is, we can still regard the intention itself as something even though it achieved nothing; at least there was the intention to open the door even though all movement can be explained by neurophysiological processes. The intention is an epiphenomenom, a real thing, but without causal efficacy. It is null and void as a causal factor, but at least still exists. The situation is worse, however, in the theological replacement of purposive explanation for even the desire is given by God. He is not only the ultimate author of my getting down on my knees and my words of supplication, but also the Ultimate Intender of my intention to pray. Behind every human intention, there is an Ultimate Divine Intention. There is not even an epiphenomenom left. Indeed, when I do wrong it is really God neglecting to do something and so on and so forth.[141] [142]

Let us consider one objection to the line of reasoning I have just proposed. A critic might claim that I have not sufficiently distinguished Aquinas' theory of secondary causation from occasionalism. There are many varieties of occasionalism, but they share in the conviction that no created thing has any real causal efficacy [Freddoso

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[141] I do not intend this as a complete argument. It merely gives the reader a sense of my overall position. See Helm 1994 for a defence of something like the Thomist account of providence; in particular see Chapter 6 for his account of prayer and his defence of the notion that we genuinely pray even though God intended that very prayer. Kathryn Tanner 1994 is another who defends something like the picture given by Aquinas. It is interesting to see her using the notion of different levels of explanation to defend her account from the charge that it denies power to the created world: "This argument [that a creature is not exercising any real power] does not think of God's creative action as what holds up in existence a whole nondivine plane of being but assumes from the start, without argument, that God is just one actor among other possible actors within a single plane of cooperating and/or competing causes of a comparable sort." The two - that is, the divine and human - cannot be compared (and therefore cannot conflict) because they are on different planes. Austin Farrer is another who seems to think that the divine can work through the human but not conflict with the free choice of the finite agent. He cannot explicate the "causal joint" of this "double agency", but clearly thinks they are compatible because they operate on different levels [see Brümmer's discussion of this in Brummer 1992].

[142] It seems to me that in these 'pancausal' accounts of providence we have a kind of purposive pantheism. There are no real purposes except God's purposes, no real intentions except God's. Robert Oakes argues that traditional theism implies pantheism in the sense that material objects are aspects or modifications of God [1983 p.57-71]; here we have something much worse. My very soul, i.e., the very centre of my deliberations, is merely an aspect or modification of God.

1988]. Thus, for example, when the soldiers who took Shadrach, Meshach and Abednego were killed by the fiery furnace we cannot assert that the fire consumed them, rather it was God who consumed them. According to occasionalists, to assert that it was the fire that killed them is to endow nature with a blasphemous independence from the divine: it is to accept naturalism and Aristotelianism and other such pagan mind sets. Malebranche rails against such evils:

> Thus, the philosophy that teaches us that the efficacy of secondary causes is a fiction of the mind, that Aristotle's, and certain other philosophers', nature is a chimera, that only God is strong and powerful enough not only to act in our souls but also to give the least motion to matter, this philosophy, I say, agrees perfectly with religion, the end of which is to join us to God in the closest way. [Malebranche 1980 p681. Quoted in Freddoso 1988 p98]

In contrast, Aquinas would assert that it was truly the fire that consumed the soldiers. The fire has genuine causal power and a real nature that produces heat and light. However, the distinction between primary and secondary causation does not deny that the fire is the instrument used by God to perform His will. Just as I can truthfully say that it was the gun in my hand that killed my enemy so we can truthfully say it was the fire that consumed the soldiers. But given the wider picture: I was the one who shot the gun to kill my enemy. The gun was a secondary cause, but I was the primary. But wait a moment! I am never the primary cause of anything. Indeed, I have causal powers, but these are merely instrumental in effecting God's will. It was God who killed my enemy; it was He who consumed the soldiers; it was He who saved the three brave and faithful Israelites. And again, in terms of explanatory completeness and priority, we must prefer the theological explanation to the naturalistic - at least this is the implication of Aquinas' notion of providence as I understand it.[143]

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[143] Freddoso comments that "medieval scholastics were never able to reach an enduring consensus about the metaphysics of God's 'general concurrence' with secondary causes." [1988 p78] The model most often used to explicate the nature of the concurrence is the workman to tool model which has unfortunate implications for creaturely autonomy. Other models of God's role in nature are helpfully set out in Barbour 1990 p244. Incidentally, my assessment of Augustine's and Aquinas' theories of providence is very similar to the criticisms levelled against their thought by David Griffin. See Whitney's explanation of Griffin's position in Whitney 1985 p89-96.

Now how far does the Thomist theory of providence have conceptual affinity with the Leibnizean account? Clearly God has infallible and complete foreknowledge. However, is literally everything fitted in and planned for in the complete sense that Leibniz means? It would appear that there is nothing indeterminate in such a robust and complete theory of God's providence. However, Aquinas says a curious thing in the *Summa Theologiae*:

> God knows how many individual perishable things he has created, though he has not predefined how many cattle and how many flies as such, but provides whatever number is necessary to preserve the species. [4,23,7]

The line of reasoning seems to be that God's knowledge of the present is complete and exhaustive. He knows how many flies and how many cows there are now. But when He decided to create cows and flies He made enough to preserve the species. God had no predefined number of flies. The precise number is adiaphoric - a matter of indifference. He only wants enough to preserve the species. This seems to lead to the commitment that God is capable of giving commandments or decrees that are indefinite, e.g., "Let there be enough X to preserve a species". As we shall see, this possibility of indefinite decrees is something that Peter van Inwagen uses in his important essay 'The Place of Chance in a World Sustained by God'. On a personal note, I must say it is refreshing that Aquinas allows the created order a little bit of slack even though it is only for flies and cattle.

Let us turn now to an overall evaluation of these providential theories in the light of the ideas we have been developing in this thesis. The central idea, which I think is a mistake, is that of God selecting or discriminating between possible worlds or more loosely the way things could turn out if a particular scheme of things is instituted. A possible world is not meant to be just an initial state - a kind of beginning - but to refer to all that world will contain not just spatially, but also in a temporal sense. When God institutes a world with Adam in it, He also institutes or actualizes a world that will contain future individuals such as Noah, Nebuchadnezzar and Jesus.

Most philosophers and theologians think that this selection of possible worlds picture can be attacked using the notion of libertarian free will. In order to appreciate this, we will briefly look at the notion of middle knowledge. Luis de Molina (1535-1600) is

usually credited with the classical exposition and defence of middle knowledge. Middle knowledge is so called because it lies between God's "natural knowledge" of all possibilities and his knowledge of what will actually happen once He actualizes a particular set of circumstances. God also knows, according to advocates of middle knowledge, what a person would freely do in any situation, even if that situation never arises. It is usually expressed in terms of God knowing all the *counterfactuals* of freedom. The freedom that Molina is referring to here is a kind of freedom that would have been unacceptable to Augustine, Aquinas and Leibniz. They all believe that freedom is adequately expressed by the will acting spontaneously, even if the will itself is determined in some way. This so-called freedom of spontaneity is distinguished from Molina's freedom of indifference. Here the idea is that, given a situation and a set of causal factors, a will can choose between alternatives. It can accept one and be indifferent to another. Thus a person in situation A with a set of psychological factors X, can still choose either Y or Z.[144]

Now, as Hasker observes in *God, Time and Knowledge*, many people might just think that this kind of knowledge - i.e., middle knowledge - is just a natural consequence of the notion that God is omniscient. However,

> Middle knowledge is not a straightforward implication of omnipotence, because it is not evident that the truths postulated by this theory exist to be known. In ordinary foreknowledge, it may be argued, what God knows is the agent's *actual decision* to do one thing or another. But in a situation that never in fact arises, no decision is ever made, and none exists for God to know. [Hasker 1989 p20. Emphasis in original.]

In other words, the proposition "X will do Y in situation A" has no truth maker in a counterfactual situation. As Hasker observes, it would undermine the conception of freedom offered if one were to say that the truth maker of the situation were the psychological factors of the agent in that situation - if this were the case then the agent would be psychologically determined to do Y, which sabotages the libertarian definition of freedom being advocated [see p24].

Now, arguably, if there is such a thing as libertarian free will and no middle knowledge (because there is nothing to know), then, God's selection between possible worlds is

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[144] This strong conception of freedom is often called *libertarian* freedom.

partially blocked. God can see the initial state of the possible world that He will in fact make and can foresee how it will turn out,[145] but He cannot see how other (counterfactual) worlds that He will not make would develop.[146] So a libertarian theist, armed with a rejection of Molinist middle knowledge, can partially block the kind of perusal of possible worlds picture that Leibniz puts forward. However, this picture of God's making of the world is, as I say, only partially blocked. God can discriminate clearly between possible worlds where agents are given only liberty of spontaneity and, a fortiori, those worlds where there is no freedom in any sense whatsoever. There are still plenty of possible worlds for God to contemplate.

However, my grounds for rejecting the possible worlds approach to God's creation are not primarily to do with freedom. They are to do with the nature of modality itself. While advocates of libertarian freedom can partially block the possible worlds model of creation, the approach to possibility given by Peirce and Hartshorne *completely* destroys the whole idea of possible worlds. If their approach to possibility is the correct one, then, God cannot peruse possible worlds at all. This would mean those theories of creation and those theories of providence which depend upon this conception cannot be defended. God cannot see possible creatures and decide upon their make-up and characteristics. He cannot decide to make a world where the creatures are wholly determined in what they will be like. Creation is not akin to a type of divine window-shopping where God can, as it were, walk along and choose which particular world will be His.

The rejection of possible worlds is not a bad thing for theology. Once we get the bad models of God's creation out of the way, we can develop a better understanding of God's providence. That is what we turn to in the next chapter.

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[145] In actual worlds and situations the truth makers of propositions pertaining to libertarian free acts are the *actual* free acts of the agents. Hasker argues that this cannot be the case: God can only have probable knowledge of the free acts of agents in the actual world.

[146] We noted when we looked at Ockham that there was a strange tyranny of the future governing what God could create at the beginning of the world. A similar kind of tyranny is apparent here. It appears that only one world is, in fact, possible - the actual world. Because it *will be* actual, it is the only possible world that God can examine. Other possible worlds are either consigned to oblivion or are hidden from God's sight.

Chapter Eight

Moral and Providential Consequences of Continuum Analysis

We saw in the last chapter what kind of providential theories commonly arise from the idea that God, prior to creation, is able to examine what He is going to make. What I want to do in this chapter is look at what consequences an acceptance of Peirce's and Hartshorne's analysis of continuity have for our theory of providence and, more generally, for our ideas of God's relationship with the world. What I hope will become clear is that there are definite advantages for any theology of providence in the adoption of the idea of indeterminate possibility.

The main consequence of continuum analysis is, as we have seen, the rejection that God has infallible and complete foreknowledge (henceforth ICF). In chapter 3, we saw that until God cuts or slices or causes an exemplification of a continuum, there is nothing definite to know since it is of the nature of continua to be determinable but not determinate. This means that once God creates a world by using the divine capacity or power of creativity, then, there are more items afterwards than before and these items are radically different to anything that previously existed. In the possible worlds model, there are more items, but they are certainly not different since all God has done is copy determinate possibilities and made them, in some sense, actual - in a sense of actuality to which it is difficult to give any content. Indeed, I shall be arguing later that this model of creation has emanationist tendencies: all we are getting is divine ideas transferring themselves from being internal to the divine self to becoming external.

So, in creation, we have more items coming to be - items that are radically new. This means that there is more for God to know after creation than before. Of course, this is not to say that previous to creation certain items were *hidden* and then in creation they are *revealed* - rather it is to say that in creation genuinely new things come to be and God knows them because of His omniscience. As I say, this increases the range of God's knowledge. This, I think, must have implications for the notion of ICF before and after creation. Before creation, God cannot know the continuum of colour or, to put it another way - God cannot know what His power to create colour will produce. As we have said, there may be certain mathematical truths to be known - perhaps God knows

about wavelengths and frequencies and the such like, but He cannot know the colour blue before it is exemplified. However, once a particular power or capacity to create is explored in God's creative activity (i.e., after creation), then, God can see what that particular continuum will produce. Perhaps Hartshorne is right that each exemplification of colour is subtly different, but God knows that a particular continuum will produce something either exactly like that or at least something very similar. He can foreknow what will be produced from an examination of the various continua or powers He has utilized. In other words, God can *now* foreknow what will be from what is and from a knowledge of what His creative capacities can produce. Thus, once the world is up and running, God can foreknow much more. Just as God *knows* more once creation has been completed, so He can *fore*know more. Hartshorne would call this kind of increase in God's glory, God surpassing himself [1965 p29].

Now I do not intend to spend much time discussing the range of God's foreknowledge *after* creation. It is clear that it is increased, but I do not think that it would extend to being ICF. First of all, there is the problem of foreseeing the free (libertarian) decisions of agents and how those decisions will influence events. Many writers exaggerate the extent of God's foreknowledge in the light of libertarian free will. David Basinger says,

> Those who believe that God possesses what has come to be labelled as 'present knowledge' (PK) maintain that God's knowledge is limited to everything that is (or has been) actual and to what follows deterministically from it. He knows, for example, exactly what Caesar was thinking when he crossed the Rubicon and how many horses he had in his army that day. He knows exactly what every politician feels about the policies he or she is proposing. And since God knows the laws of nature (which he created) function, he knows, for example, how certain weather systems will develop and what their effects will be on certain natural environments. [1996].

We are all now used to hearing about how the flap of a butterfly's wing in South America is meant to be able to cause a hurricane in Britain. This may or may not be true, but certainly weather systems are acutely sensitive to initial conditions. This means that free and therefore, according to this conception, unforeknown actions may affect the weather in ways that God cannot predict. It may be that God can know what the weather will be like tomorrow in a broad sense - even the weathermen can do this, after all. But can God now see in perfect detail all aspects of tomorrow's rain - for example, where every drop will fall? He can only know where every drop will fall if He

knows the future whereabouts of every individual in travelling distance from that rain. If I am standing in the pouring rain I will affect that rain and where it will fall. Even the precise position of the earth will be affected by the unpredictable movements of the free individuals upon it. It seems an easy matter to decide what will follow deterministically from certain initial conditions, but these initial conditions may be affected by the free and unforeseen actions of individuals. Libertarians need to add the qualification that God can know what follows deterministically from what is now actual only insofar as that is not affected by free actions.[147] But He does not even know what will be affected by free actions unless it is a place so remote that no causal influence from free action can possibly get there.

Second, those continua which have not been exemplified are still unknowable in specific terms. Blue is known since it is instantiated, but who is to say that there are other shades of colour that are missing - that have not yet occurred? These cannot be known.[148] Furthermore, there may be instances of newness that are composed of determinate items formed together in new ways. In works of art, much is already present for the artist to use, but the form or composition can be new. Such newness, I will argue, cannot be completely foreknown.[149]

I think God's knowledge after creation is certainly increased but, for these reasons, I do not think that it becomes ICF.[150] But what is more pressing in this thesis is to pursue the implications of the denial that God had ICF before creation - indeed, it looks like God could know very little of what He was going to produce given continuum analysis. What are the providential implications of this view? First, God could not plan creation in the complete and determinate sense that Leibniz supposes. What consequences come

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[147] To be fair, Basinger does add that qualification in the next paragraph. Nevertheless, his example about God's knowledge of future weather systems seems unreasonable given that many of our free actions can affect the weather in many (albeit small) ways.
[148] Of course, the inspiration for this example comes from Hume's talk of a missing shade or colour in the *Enquiries Concerning Human Understanding*, section II. I do not think Hume is correct to say that the colour can be known.
[149] We shall be dealing with the issue of artistic creativity in a later chapter.
[150] I realize the serious nature of this conclusion. According to Thomas Flint, orthodox Catholics are required to believe in ICF, since it has been declared *de fide* by the first Vatican Council [1988 p149 n3]. Freddosso lists the following philosophers and theologians who uphold the notion of ICF: Justin Martyr, Tertullian, Origen, Augustine, Bonaventure, Aquinas, Scotus, Ockham, Luther, Calvin, Molina, Bañez, Suarez, Arminius, Leibniz and Edwards [Freddoso 1993 p100].

of this? For a start, God cannot - logically cannot - create the best possible world. Recent attempts to answer the question of why this is not the best possible world have tried to do so by saying that there is no logical content to the notion of the 'best possible world'. God can be under no obligation to produce that which has no logical content, so we cannot complain that this is not the best possible world [Schlesinger 1982].[151] In continuum analysis the reply widens and deepens: there are *no* possible worlds, therefore, there is no best possible one. Therefore, God can be under no obligation to produce it. A similar point can be made against those who think that, while God is not morally obliged to create the *best* possible world, He is nevertheless obliged to actualize a world with an overall good *net* value. If possibility is indeterminate, God is under no obligation to make this kind of world either, since there is no possible world answering to this description. Why is this the case? Simple - there are no possible worlds.

Naturally once the world is created, we might want to say how we think a good God would deal with the world that arises. But even here, we should be very careful. Philosophical theology is awash with thought experiments envisaging the supposed consequences of counterfactual scenarios. Would not it have been better if God had done that rather than this? If God had given Adam more gritty determination, would he have been able to resist Eve's tempting offer? The list goes on. It seems to me that we should be more sceptical about the modal consequences of actual things being different if this difference ranges far from the actual.[152] In other words, perhaps we should say, if that had happened instead of this, it *could* have been the case that the world would have been better, but who knows? Even God, under the model proposed by continuum analysis, might not know what would happen in counterfactual scenarios.[153] He would be in a better position to decide what might happen, but it is not clear that He would have ICF.

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[151] I think that Leibniz's thoughts about the best possible world show that there is *some* content to the notion (see note 129 in previous chapter). But, of course, I am saying that prior to creation a perusal of possible worlds is impossible. There is content *now* to the notion, since we can, so to speak, retrospectively apply what we have learned about the world and its exemplifications to God's creative decisions. As is so often the case, applying retrospection is unfair.

[152] See n129. See also van Inwagen 1998 p243-258 for his scepticism as regards knowledge of things modal - a scepticism I fully share.

[153] This is presuming that God can have some kind of middle knowledge. Like Hasker, I think that there is nothing to know in so-called middle knowledge.

Anyhow, having briefly dealt with some of the consequences of the rejection of ICF, let us look at other consequences of the proposed model. I think we should not be too wary of saying that the nature of this world is due in great measure to *chance*. Since there are no possible worlds, God cannot choose between them and decide which one He will actualize. Instead, He relies upon His divine creative capacity and makes a world from nothing. The actual specific character and make-up of this world that has arisen was not planned by God. As I have said, since mathematics is actual and determinate, this could form some kind of basis for God's decisions as He uses His creativity. But the actual determinate and specific nature of this world arises in a chance-like way, since it was part of no one's plan and was unknowable as determinate. Having mentioned this consequence of continuum analysis, we shall defer a full discussion to a later chapter.

Let us, instead, turn to another way in which the idea of possibility being indeterminate should change our understanding of God's relationship with the world. It seems to me that under the model proposed by Leibniz, it is extremely difficult to give content to the notion that the creation is a distinct thing from the creator. We have already examined this in relation to the topic of human freedom. The will of the creature increasingly looks like merely an aspect or modification of the divine will - slowly, as we explain in theological terms why X did as she did, we find less and less room for X to have any significant independence from the divine. The same, it seems to me, can be said about the ontological status of the world. Instead of the world itself having an independent ontological status, it becomes increasingly difficult to show how it is separate from God. We too easily fall into a kind of neoplatonic emanationism or just straight pantheism. In the next section, we look at these kind of issues.

Separating the Creator from Creation

I will begin this section with a discussion of Jürgen Moltmann's views of creation as expressed in his suggestive Gifford Lectures: *God in Creation*. Here we find a great deal of consonance between Moltmann's views and the implications of the Hartshornian\Peircean philosophy of modality. Moltmann is keen to emphasise the newness of creation - he discusses the Hebrew word 'bara'' which he says,

is used exclusively as a term for the divine bringing forth, for which there is no corresponding human analogy...Bara' is never used with the accusative of a material out of which something is made. This shows that the divine creativity has no conditions or premisses. Creation is something absolutely new. It is neither actually nor potentially inherent or present in anything else. [Moltmann 1985 p73].

The Genesis narrative, he says, "makes a clear distinction between creating (bara') and making ('asah)." The former is something for which there can be no human analogy while the term "'asah" refers to the "purposeful 'manufacture' of a work, in which something is given is given its particular character and aptitude."[154] Moltmann is led to the conclusion that because of the presuppositionless character or absolute unconditionality of creation, the idea of *creatio ex nihilo* is "unquestionably an apt paraphrase of what the Bible means by 'creation'" [p74]. "There is", he says, "no external necessity which occasions his creativity, and no inner compulsion which could predetermine it."

What specifically is being denied by the nothing in *nihilo*? Part of that which is being denied is that the world comes out of God. The Absolute Nothing of *nihilo* as opposed to the relative nothing of *me on* is not an aspect of God, rather it is the "absolute negation of being". The doctrine thus tries to eliminate any suggestion of pantheism [p75]. Moltmann's emphasis on unconditionality and Absolute Nothingness leads him to affirm the free will of God:

> The world was created neither out of pre-existent matter, nor out of the divine Being itself. It was called into being by the free will of God: *creatio e libertate Dei*. If it is created through God's free will, and is not an emanation from God's essential nature, then the act of creation must be based on a divine resolve of will to create. [p75]

But if God's free will is the basis of creation, then, is it to be seen as arbitrary - is it just the whim of a "capricious Demiurge"? No, the free will of God is based not on a chance whim, but came as the result of love: "when we say that God created the world 'out of freedom', we must immediately add 'out of love'" The exercise of power for its own sake is not the Deity's wish. "Creation is not a demonstration of his boundless power; it

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[154] Other scholars have denied that the distinctive usage of the two terms can establish that there is a lack of analogy between human and divine making. See Fretheim 1984 p73.

is a communication of his love, which knows no premises nor preconditions: *creatio ex amore Dei*." [p76].

Moltmann goes on to discuss the Kabbalist notion of *zimsum* in the hope that it will "deepen [our] interpretation of the doctrine of *creatio ex nihilo*." Christian theology, explains Moltmann, has always distinguished between the inward and outward aspects of God. Thus the relations between the Persons of the Trinity would exemplify the inward aspect of God while God's act of creation would be something showing an outward aspect or relation of God. However, is this not to assume that God can have an outward aspect? Moltmann puts it this way:

> If we assume an *extra Deum*, does this not set God a limit? And who can set limits to God? If there were a realm outside God, God would not be omnipresent. This space 'outside' God would have to be co-eternal with God. But an 'outside God' of this kind would then have to be 'counter' to God. [1985 p86]

Such a co-eternal 'counter' to God would surely be unacceptable to Christianity and yet we do not want to say that the relation between God and the world is internal in the same sense as between the Persons of the Trinity. There is, however, an alternative to either of these two unacceptable conclusions. We can allow an *extra Deum* on the "assumption of a self-limitation by God himself preceding his creation." It is here where the notion of *zimsum* is needed. *Zimsum* means "concentration and contraction and signifies a withdrawing of oneself into oneself." [p87]. Moltmann explains that it was the Jewish writer, Isaac Luria, who first developed this notion - his inspiration being the doctrine of *Shenikah*, which is the name for the contracting of the divine presence so that it can be accommodated in the temple. Luria applied this idea in order to explicate the relations between God and His creation. Before creation, God makes the first movement by preparing the space in which creation can be accommodated. Luria says, "Where God withdraws himself from himself to himself, he can call something forth which is not divine essence or divine being." Thus God is not the 'unmoved mover' for He, so to speak, moves out of the way as a preparation for the world to be. Again Luria explains, "In the self-limitation of the divine Being which, instead of acting outwardly in its initial act, turns inward towards itself, Nothingness emerges. Here we have an act in which Nothingness is called forth." [p87].

Let us look at Moltmann's views in the light of the understanding of possibility that has been developed in this thesis. It seems to me that the notion of genuinely new items coming to be more easily accommodates the suggestive idea of an outside of God. The notion of an *extra Deum* is, of course, useful in avoiding pantheism or some kind of emanationism. Somehow God is able to withdraw ontologically in order to accommodate the world. It is not a part of Himself and is no mere emanation from Himself. Genuinely new items, in the sense given by Hartshorne, serve this desideratum well. To appreciate this consider the Leibnizean picture. God conceives of determinate essences of, say Adam and Eve, and then actualizes them. In what sense, are these 'new' items different to that which has gone before? We have an idea of a determinate Adam - then we have another determinate Adam that is meant to somehow reside outside the divine mind. So God *copies* out His ideas and places them outside of Himself.

How, then, are these copied ideas meant to be genuinely non-divine? Or, to put it another way, how are they meant to be separate from God? If God has been successful in His copying, then, presumably nothing will have been lost. How, then, will the object which is now supposed to 'outside' the divine mind have lost its divine status if God's copying was entirely successful? One might say that the very fact that the divine idea is copied and *relocated* makes that divine idea non-divine. Anything relocated outside the divine mind loses its divine status. The presumption here is that the property of divinity is only properly had by items that are inside God's mind. Thus, even if God successfully copies His ideas, they become not His ideas by being placed outside Himself. In this picture, then, God withdraws to allow a space (so that there can be an *extra Deum*). Then, God copies His ideas faithfully and places them in the space he has withdrawn from. Because these copies of His ideas are outside of God, they are not divine even given the fact that they are entirely faithful copies of those ideas which He previously eternally contemplated.

I find this model of creation entirely unsatisfactory. All that is happening is relocation and duplication. The only way in which the divine ideas are transformed is that they are duplicated (which is a dubious kind of *trans*formation) and relocated. It is hard to see how this avoids a kind of emanationism. Indeed, it seems exactly the definition *of* emanationism. In emanationism, God's essence overflows and becomes somehow

further from the divine centre or the One. In his book *Neoplatonism*, R.T. Wallis describes the central idea of the notion of emanation:

> The generation of Reality by the One is described by the neoplatonists in terms of their well-known image of Emanation. The image's underlying principle is summarised in the Scholastic maxim that 'good diffuses itself' ('bonum diffusivum est'). In other words, entities that have achieved perfection of their own being do not keep that perfection to themselves, but spread it abroad by generating an external 'image' of their internal activity. [Wallis 1972 p61]

Indeed, the copying model of creation can be seen as even more undesirable than emanationism, since at least in the minds of the neoplatonists that which was diffused was transformed or modified in some way. The emanations from the divine being were, by virtue of that diffusion changed or modified in some way. In the central neoplatonic image of the sun's light being diffused, at least the rays got a little dimmer as they shone from the divine centre. Of course, in the copying image the determinate ideas of God do not lose any of their lustre as they are placed outside of God - if that is, God has copied them faithfully enough.

As we have seen, Leibniz thought that somehow the creation of divine ideas would inevitably mean that metaphysical evil was created as well. So one might want to claim that the divine ideas are indeed modified or changed in some way. In other words, the ideas take on metaphysical evil as they are actualized and placed outside the divine essence. However, it seems to me that if God is successful in copying or duplicating His ideas, the essence of metaphysical evil must have already been present in God for all eternity. After all, God cannot copy or actualize that which was not present previously. The Manicheans posited a co-eternal realm of evil with which God contended. If we take the copying idea seriously it appears that this evil has always been eternally present as an aspect of the divine.

The only other recourse for a defender of Leibniz's model of creation is to say that God does copy out His ideas, but metaphysical evil is introduced merely by the fact that the ideas are duplicated and put outside of the divine. Evil is, indeed then, according to this conception, a kind of privation. It comes from being placed *outside* the divine self. I am not sure if this possible reply would work, but even if it did, the central problem

remains of trying to show how the Leibnizean model avoids the charge of emanationism.

The source of the problem is, of course, the notion of copying or duplication. The relationship between the original (the divine idea) and the copy (the creature) is too close to allow any real ontological distance. The two are bound together in a kind of logical straitjacket. Perhaps this can be seen even more clearly if we examine another of Moltmann's contentions; that the world arose out of love. Let us look at the possibility of a loving relationship between the divine and the creature under the Leibnizean model as compared with that offered by continuum analysis.

Robert Johann in his book *The Meaning of Love* makes the not implausible claim that agapeistic love requires the possibility of response. We must ignore the details of Johann's suggestive account and briefly examine his analysis of agape or direct love as he sometimes calls it. He says that direct love or agape

> implies between two persons a state of reciprocal consciousness. the presence of the other as really a 'second self' is necessarily that of a subject open to me in some sense as I am to myself - it must be a presence which permits exchange and dialogue. [1954 p.45].

The creature that God creates must be able to give this response or dialogue. As Johann would say, it gives the possibility that in creation there can be I-Thou relationships, instead of the more impersonal varieties. The genuine others that God creates have each a 'profound centre'. Gene Outka, in his discussion of Johann, paraphrases this notion of a profound centre:

> I have to be in touch with those basic motives and interests really constitutive of his self-awareness, the same elements that determine my own identity. [1972 p39]

In the Leibnizean model, does God really create 'others' with 'profound centres', or is He really only responding to aspects of Himself? It is hard to deny that God's contemplations of the copies of His own ideas is only a contemplation of little reflections or duplications of Himself. There is no genuine other in the Leibnizean model of creation and indeed any model which relies upon the notion of the copying of divine exemplars.

In *The Model of Love* Vincent Brummer analyses love as the relationship between personal centres of free activity.[155] The relationship, if it is to be one of love, relies upon the free cooperation of two independent personal centres of activity. It is difficult to see that this could be the case in God's relationship between Himself and copies of His own ideas. There is simply not enough ontological separation between the two parties in the relationship for there to be a loving relationship. There must, I argue, be this separation - a true *extra Deum* - for there to be the possibility of personal relational love. If creation is, as this thesis maintains, a creation of emergent newness where the thing created is, in some sense, different from the creator, then, there does seem enough room for an ontological separation conducive to the establishment of a relationship. God does not copy out what is already in Himself. He is, of course, the origin of that which exists because without His creative activity those other centres would not and could not exist, but He does not determine the characteristics of those created items. They are thus genuinely other in the sense required. We avoid the undesirable image of a Narcissistic God contemplating His own reflection; instead we have a God who contemplates and loves that which is new, novel and consequently quite unlike Himself.[156] [157]

In the sense of a relationship which requires a free personal response God can only have a relationship with persons or agents, but I think that under the proposed model, we should not restrict God's loving attention to persons only. The merest stone did not exist as a predeterminate divine item - it is new. It has its own 'meaning', which previously has no divine couterpart. The concreteness and determinateness of the stone is an external non-divine fact that cannot be predicted or thought about prior to the

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[155] See esp p156-164.

[156] If those created items were not new or novel in some sense, then, they must be images or duplications of the only thing which previously existed - namely, God Himself.

[157] Richard Fern argues in *Nature, God and Humanity* that God's creative activity is to be seen as God telling a story to God since He is "the only one capable of hearing and understanding it in its entirety." [Fern 2002 p146] This seems to me to be a good example of what happens when a theology does not allow enough separation between the creator and the created. God's stories become unoriginal, unexciting stuff, since He decides the grand narrative and is at the same time its audience. This model where God plays chess with Himself seems to allow no room for creation's genuine non-divine voice to be heard. I think that some kind of artistic analogy is the best one for an explication of God's relation with creation, but it must not be developed in the way Fern develops it. (I should mention that Fern's book has many good insights.)

creation of the world.[158] Its edges and contours - the fact that it impedes and resists movement in its own particular style is the stone's meaning.[159]

There is new meaning out there precisely because God has created determinate items that are external to divine ascriptions of meaning. The ontological independence of the stone is its meaning. God can love the stone, not of course in a personal sense,[160] but it can be one of love because the determination of what the stone is has arisen externally to the divine will and the divine understanding. It seems to me that the artist loves her own work, not because it merely copies something that was previously mental, but because it arose from herself and has emerged as a new object that has no previous counterpart. It is an *other* that can be be loved. There are, of course, artists who only love that which reflects something of themselves - this shows the underlying egotism in their artistic endeavours. God loves the world because it arose from Himself, but it is not a mirror which reflects back the divine image. It is precisely because it is not divine and is new that the possibility of non-egocentric love can come about.

Perhaps these ideas would be made clearer if we contrast them with a theory of the meaning and significance of objects in another sphere of theological thought. Let us, for a moment, leave the idea of the creation and examine some theories about the ontological significance of the Eucharist. Edward Schillebeeckx discusses Franz Leenhardt's view of what may be said to be the case when the bread and wine are turned into the body and blood of Jesus. Leenhardt, explains Schillebeeckx, wants to be able to meaningfully use the word 'transubstantiation' in relation to the Eucharistic Meal. How can he do so, when he rejects the view that reality is somehow to be divided up into substance and accident? Leenhardt argues that the ontological reality of things is determined by the "word of God": "...the true reality of things is to be found in what God wants these things to be for the creature." Again: "the substance of the reality is in the divine intention which is realized in it" [Schillebeeckx 1968 p77]. Thus it possible to view the bread and wine as truly the body and blood of Jesus because God's will is that how they shall be received by the recipient who is living the life of faith.

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[158] If Hartshorne is right about all properties being qualitatively different, then, every stone is a new thing - a novel entity.

[159] What I say here about meaning will be discussed in more detail in chapter eleven.

[160] Hartshorne would probably dispute the idea that the stone is not personal in some sense. He goes along with Whitehead's analysis that all things are societies of actual occasions. Everything, according to this idea, is animate with feeling.

Schillibeeckx finds much to approve of in Leenhardt's theory, but comments that Leenhardt's ideas are too "extrinsic" for a truly "Catholic view". By this, if I understand him rightly, he means that things do not give up themselves by the extrinsic command of the word of God, but that all reality is what it already by "divine constitution". I think both views are wrong. Things are determinate and independent centres because their constitution - whether extrinsic or intrinsic - is determined by no one, not even the divine will.

Here I think process theology is correct. Things are what they are by their own nature. Even God cannot - logically cannot - determine what things are without destroying what they are in themselves.[161] We can see this more clearly in the idea of freedom. There is no freedom if God determines what your will and intentions are. But it is also true of the actual natures of things. A stone cannot be a stone unless it has a certain degree of independence from the divine. A 'stone' which is merely a copy of a divine idea is not a stone, but merely a copy or pretence of the real thing.[162] Process theology with its idea that creation necessarily is the creation of things with their own powers is I think essentially correct. To make other things is to make things with their own natures. These natures are not chosen by God, but arise determinately from His indeterminate creative capacities.[163]

All this leads to the view that God's providence is *interactional*. God is in relationship with finite personal agents and the world. God's actions in the world are in dialogue with the occurrences in it. There is no 'pre-established harmony', no script to which

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[161] See Whitney 1985 p97-99 and Hartshorne 1970 p237-240.

[162] The argument here is similar to Colin McGinn's views in 'On the Necessity of Origin' [See McGinn 1975 p57-65]. There he argues that a 'Colin McGinn' who was not a descendant of primal protozoa would not be Colin McGinn. A stone, whose origin was a divine idea would not be a stone. Given that things have their origin in indeterminacy, this origin is necessary. They must be what they are under their own steam, so to speak.

[163] Process philosophy has, however, a wrong-headed view of these things. As I commented in a footnote earlier, process theologians, under the influence of Whitehead, think everything is personal or conscious in some sense. Perhaps part of their reasons for supposing this is that they cannot conceive of ways in which things can be autonomous except in the sense that an agent is autonomous. It seems to me perfectly correct to say that a stone is independent or autonomous since the way it resists the world is a product of its own non-divinely ordained nature. We do not have to say that the stone has some kind of primitive feelings or 'prehensions' in order to allow it to be independent.

creatures must adhere. When I make a free decision, it is a new occurrence, which then, and only then, can God know in its determinate fullness. God responds in loving care to the actions I initiate. Naturally, I must also try to respond to God's call on my life and the promptings of the Holy Spirit. God is not left one stage behind, but has already cared for and provided for my spiritual well-being through the Scriptures, the Church and the Sacraments. But the central point remains, God's providence is interactional with the world. It is a relationship we are engaged in, not the working out of a secret Gnostic code through which I may have the algorithmic mechanism that unlocks the secrets of the universe. John Sanders makes the point well when he says,

> The goal of the divine project is to produce people who reflect the trinitarian love in all their relationships: with God, other humans and the entire creation. God's intention is that all come to the fullness of Jesus. Because of God's faithfulness, the goal of the project has never changed, but the means and the specific paths God makes towards the achievement of the project can and do change, depending on what the divine wisdom deems best at the time. The particular path God takes to obtain his goal depends upon an interaction between God and humanity in the course of the historical outworking of the project. Hence the goal of the project remains constant even as the means remain flexible. [Sanders 1998 p170]

There is another strand of thought we might explore in our examination of the ontological distance between creator and created. I argued earlier that mathematical truths are determinate and known by God. They are determinate because they are actual. The divine mind somehow contains the truths of mathematics. God, I speculated, may have used these truths to form a basic pattern for the universe. This may explain why mathematics is so useful in finding out many of the basic truths of the universe. But not everything is mathematical, not everything can be mathematized. Henri Bergson argues that what he calls 'durance'[164] is an essential characteristic of our experience of the world (and of the world's actual nature), but that the truths of mathematics do not really capture its essence.

Bergson's thoughts about the concept of durance are central to his metaphysics, but the notion of durance is not an easy concept to grasp. Part of the reason for this is that, like Peirce's views, his ideas are radically out of step with with contemporary approaches to

[164] Bergson's word 'durée' is usually translated as 'duration'. However, F. C. T. Moore uses the word 'durance' instead. 'Duration', he argues, connotes a "measurable period of time in whch something happens" [1996 p58] - an idea very far removed from Bergson's idea of 'durée'. For this same reason, I follow Moore's translation.

philosophical problems.[165] Let us go forward, despite the difficulties or even on account of them, and look at Bergson's views about durance. We shall not, of course, be able to give an exhaustive analysis. I hope to give, however, a flavour of Bergson's ideas.[166]

Bergson argues that when we *measure* time or talk about a series of *discrete* successive states of consciousness we are not grasping the real essence of our lives and the nature of the world. Bergson sees durance (or real time or temporal flow) as a merged holism continually changing and fluxual in nature.[167] In order to illustrate the mergedness or holistic nature of durance, Bergson and his commentators often use the experience of listening to a piece of music. When I listen to *Bach's Double Violin Concerto*, there are, in the slow movement, three notes which are identical to the three notes that begin the nursery rhyme, *Three Blind Mice*.[168] Now if I were to conceive of music as merely the successive, quantitative accumulation of discrete notes, I could say that the opening of *Three Blind Mice* is contained in Bach's *Concerto*. But this is not the case. *Three Blind Mice* is not a constitutive factor in the makeup of the *Concerto*. To suppose so is to make the error of thinking that music is just a series of discrete notes. If we break the music up into its 'parts' we lose the music altogether. There is a integral wholeness in the music. Even in the experience of listening to a sound of a pendulum rising and falling we can say that "the sounds combined with one another and acted, not by their quantity as quantity, but by the quality which their quantity exhibited, i.e. by the rhythmic organisation of the whole."[169]

Of course, we break up the temporal flow of our lives all the time - mainly for pragmatic purposes. We might say that a meeting lasted for two hours or that the referee

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[165] There are many similarities between Peirce's thoughts and Bergson's. I have not been able to ascertain if one read the other.

[166] We shall be looking at Bergson's ideas in further detail in chapter ten.

[167] In *Time and Free Will* he says, "In a word, pure duration might well be nothing but a succession of qualitative changes, which melt into and permeate one another, without precise outlines, without any tendency to externalize themselves in relations to one another, without any affiliation with number; it would be pure heterogenity." [p. 104]

[168] The example is from Moore 1996 p57.

[169] Bergson 2001 p106. Moore also uses Sartre's illustration of writing a word: when I write the 'r' of write, what am I doing? Am I simply writing the letter 'r' or is this not a distortion of the truth that I am writing the word 'write'? And is this not a distortion as well? In writing the word 'write' am I not using it as an example in this thesis? Josiah Royce uses the example of poetry in a similar way in *The World and the Individual* p116-117.

added on two extra minutes. Likewise, physicists and other scientists, measure time in order to rationalize the world we live in. Again for practical or pragmatic purposes these measurings are necessary things, but the measures of time are only tangential to the real temporal flux that is the underlying ontological reality that we experience. Bergson talks about how talk of physical and chemical forces are only tangential to the nature and quality of our lives:

> A very small section of a curve is nearly a straight line...At the limit, one may say that it is part of a straight line or of a curve. In fact, the curve is indistinguishable from the tangent at each of these points. In the same way, living processes are tangent at any point to physical and chemical forces; but these points are only, at the end of the day, views of a mind which imagines halts at such and such moments of the movement which generates the curve. [*Évolution* p31ff. Quoted in Moore 1996 p117].

Science tries to mathematize the essence of the curve by transforming it into a series of smaller and smaller straight lines. Such a procedure may help us in a pragmatic ways, but it distorts what a curve is. In the same way, we measure time, but only by distorting its true nature - by seeing it as a series of discrete parts. Durance is a qualitative thing, which resists mathematical quantification[170] - mathematics cannot get to the whole truth of what the world is like and what our experience of the world is like, although it may help us in practical ways.[171]

These are, I think, deep and penetrating insights. How, though, do they relate to the ideas contained in this chapter? If we imagine God's creation as the creation of lives and beings whose essence is one of durance, there is a discontinous 'break' from the mathematical actualities of God's previous thoughts to the non-mathematical quality of durance. These multiple durances are not capturable in the language of mathematics. The flow of them is not amenable to mathematical analysis, unless we distort their natures. The break between before and after creation, is especially obvious if we imagine that God is, in some sense, timeless before creation and, in creating time, lends part of Himself[172] to the everlasting flux of newness that is durance.[173] He freely

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[170] Bergson distinguishes the non-quantitiative multiplicity of the qualitative unfolding wholes of our lives from mere quantitative multiplicity. See Bergson 2001 p121-123.
[171] Other relevant discussions of Bergson are Turetzky 1998 p194-210 and Ansell-Pearson 1999. A recent book is Lawlor 2003.
[172] I say "part of Himself" because I think there is a truth in the Hartshornian idea that God is dual in some ways. He is both necessary and contingent (in different apects). I think that God is both timefree and durational.

commits Himself to the vissicitudes of durational unfolding and everlastingness. Such a line of thought would lend itself quite easily to Moltmann's talk of "divine humiliation" [1985 p85].

What I am trying to do is give models or ways of thinking that provide insights into the idea that creation is not duplication - there is a distance between the creator and His creation. This separation is desirable because it allows a genuine ontological difference between God and His creation and allows enough room for a loving relationship to be established.

Finally we must examine another important consequence of continuum analysis for our understanding of God's providential care for the world and His relationship to it. We have seen that God cannot know what the actual specific nature of the world will be like if we accept that possibility is indeterminate. He cannot know Adam and He cannot know Eve before they are created. Now, it seems to me, that if God cannot know Adam and Eve - the good things created out of love - He cannot, for even stronger reasons, know what evil is. This seems to be an inevitable result of the continuum analysis of possibility. Whatever evil is cannot be known by God unless we assert that evil is, in some way, an emanation or a copying of something in God. I take it as a fundamental tenet of Christian theology that we want to avoid saying this. Thus it seems, before creation and the Fall, God could not contemplate the fact of evil. He could not think of evil in any way. To avoid this conclusion, theologians and philosophers have resorted to various strategies. They have said that evil is not a positive thing - as we have seen, Leibniz agrees with Augustine that it is a kind of negation or privation. This might or might not preserve the innocence of God as a cause of evil, but it could not, to my mind, make Him know what evil before it actually emerged in creation itself. How can

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[173] Of course, many writers want to keep God free of the contagion of the world by insisting that God remains timeless before and after creation (although, of course, such writers would not use the terms 'before' and 'after' in a temporal sense). I think that, if God is timeless (I would prefer the term 'time-free') before creation, the creation of the world is His commitment to the flux of everlastingness rather than the staticity of eternity. I think perhaps the idea of a temporal unfolding - a real sense of movement - might be effected by a consideration of the unfolding relationships between the persons of the trinity. Here durance is seen as always part of God's nature - in creation He creates other new qualities of durance.

God, who is pre-eminently a positive and unsurpassable being, know the negativity of evil?[174] In any case, the notion that evil is a negation or a privation, although insightful in some respects, does not, as John Hick observes, do justice to the real energy of evil.[175] To see the fact of the Holocaust as a mere negation, cannot do justice to its reality.

It seems to me, therefore, that the positive fact of evil cannot be known by God before creation and the Fall. God did not know that evil would result. God took a chance in creation - not in the sense that He could foresee the possibility of evil but hoped that it would not arise, but in the sense that He could not foresee what would result from the creation of durance, or if we say God is already durational, from the creation of other centres of durance. Evil, like the world, arose from chance. It was not planned because it could not have been foreseen. It is to the notion of chance that we turn in the next chapter.

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[174] As we saw in chapter seven, Leibniz argues that there is an inevitable finitude which results in, what he terms, metaphysical evil - the privation of falling short of the divine perfection. Given this, God must have known that He was creating beings which would necessarily fall short of His supreme perfection. In this sense I acknowledge He knew that evil would result. But necessarily falling short of perfection is one thing - the positive evil of envy, murder, greed and the like is another. How could God know these things prior to creation? I do not think He could.

[175] Hick 1966 p62-64. Schopenhauer in *The Suffering of the World* comments forcibly on the contention that evil is a kind of nothing: "I therefore know of no greater absurdity than that absurdity which characterizes almost all metaphysical systems: that of explaining evil as something negative. For evil is precisely that which is positive, that which makes itself palpable; and good, on the other hand, i.e., all happiness and gratification, is that which is negative, the mere abolition of a desire and the extinction of a pain." [p4 Trans R.J. Hollingdale]

Chapter Nine

God and Chance

In this chapter I want to examine the relationship between chance and God's creation of the world. To most theists the notion that there is any room for chance in God's creative act is, to say the least, unwelcome. Their worries are similar ones to those we have already encountered: there is the apparent diminution of God's sovereignty. Does not it say in Proverbs 16 v33, "The lot is cast into the lap, but the decision is wholly from the Lord."? And yet how can the decision of the roll of the die always be the Lord's if there is an element of chance in creation? The goddess Fortuna was often pictured balancing on a ball to show the precarious nature of chance. Do we want the Lord of all creation to have to do a similar balancing act? I will not examine these worries here because they have largely been covered in the sections on providence. Later I will address them as they relate specifically to the concept of chance. What I want to do first of all is examine to what extent chance was involved in God's creation *ex nihilo* if we take on board the idea of God's capacity to create being like a continuum. Later in the chapter we shall also examine how the idea of chance coheres with some approaches to the interpretation of the opening chapters of Genesis.

In order to get our conceptual bearings right we need to understand what is involved in the notion of chance. This is not easy. There is a rich cluster of concepts which form the overall idea of chance. For example, A.J.Ayer in an article lists five ways in which the concept can be understood.[176] For our purposes, we need only look at three notions of chance that are used by theologians and philosophers working in this field.

First there is the notion that a chance event is one which is not governed by fundamental physical laws. A sudden whim to go for a walk, for example, might be the

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[176] See *Scientific American* 213, (1965). Peirce also discusses the notion of chance. He, like many thinkers examined in this chapter, thinks that chance is an integral part of the world. He called this part of his philosophy *tychism*. In a series of articles in the *Monist* Peirce articulated his position. He believed the world was not governed by a series of hard and fast deterministic laws, but that chance allowed spontaneous differences that paved the way for novelty and newness. See Peirce 1998 p157-201. A good explanation of Peirce's position can be found in Corrington chapter 4.

kind of thing that would be classed as a chance event. It was not predictable and no laws govern this kind of occurrence. There may be statistical laws, perhaps, which could be formulated by sociologists about whim-like events, but, even so, it would seem to most that it was a chance thing that I went for a walk. Similarly, laws governing events on the micro scale are meant to follow statistical laws rather than the hard and fast laws of Newtonian mechanics. Again this seems to mean that at the micro scale there is room for chance. Now it may be that these merely statistical regularities hide a more fundamental type of law that is more like the classical Newtonian model. The chance event may turn out not to be chance at all, but the inevitable working out of some, as yet, undiscovered law. In other words, the chance-like appearance of whims and quantum mechanics could be an illusion that rests on our ignorance. Famously, Einstein thought this was the case in his assertion that the Lord God does not play dice.[177] It may or may not be our ignorance that makes the determined and law-governed look like a lottery, but that is unimportant. What is important is to see that *if* there are events which are governed by merely statistical regularities, then they are a kind of event that could be classed as chance-like phenomena.

The notion of quantum mechanics leads to the next notion of chance: causelessness. Apparently at the quantum level, things just happen without causation. This is meant to be an irreducible fact about the quantum world according to most physicists.[178] As bizarre as this may sound, it is the current notion. For example, a closed system of radioactive, but identical atoms will decay. That is, atoms will break away from the system. But which ones? They are all identical and yet one rather than another one is emitted from the system. Apparently nothing favoured or caused this atom to be emitted. It happened without cause, a random event. Again this causelessness may be due to our ignorance, but most physicists accept the interpretation that says that there is irreducible causelessness at the quantum level. It seem to follow from this that chance is a feature of the world.

The two types of chance events examined above are obviously related in a number of ways, but it is important to keep them apart. My walking whim could be caused by a sudden, but uncharacteristic burst of energy. It need not be causeless. Indeed most

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[177] Quoted by Davis 1983 p102.
[178] Dissenters from this position include David Bohm and René Thom. For Bohm see Worthing 1996 p128-130. For Thom see Lestienne 1993 p101.

people would think that such whims are caused, but the point is there does not seem to be rigid universal laws governing them. This is what makes whims chance-like phenomena, not so much that they are uncaused. Causelessness and non-conformity to rigid physical laws are, then, related but distinguishable species of chance.

The third notion of chance is one used by Peter van Inwagen in his essay 'The Place of Chance in a World Sustained by God'. Here chance events are those events which are not planned, but just occur:

> What I shall mean by saying that an event is a "chance" occurrence, or a state of affairs a "matter of chance" or "due to chance" is this: The event or state of affairs is without purpose or significance; it is not part of anyone's plan; it serves no one's end; and it might very well not have been. [1995 p50].

According to this notion of chance, some events occur where there is no real explanation of significance as to why the event happened. Inwagen gives the example of an accident involving a car colliding and killing a woman called Alice. Imagine the woman had just remembered to get some crayons for her son and was on her way to buy them when a car collided with her that had faulty brakes. Such an accident is not the result of some plan despite the fact that it may have some sorts of explanation. Obviously the event was caused, amongst other things, by a combination of Alice's location and the faulty brakes on the car. There is no question of causelessness, but nevertheless since it was unplanned and so lacks the kind of explanation in terms of intention and design it seems appropriate to call it a chance event.

Inwagen's general position is that these kind of chance occurrences are a feature, even of a world sustained by God. Roughly, things just happen because certain atoms or particles have certain specific locations at certain times. God sustains the existence of each thing in the universe, but what it does is largely a matter of chance in the sense that no one planned it to be that way. Inwagen suggests that the rabies virus evolved by chance; it was not part of God's plan that that specific virus should be. Similarly the evolution of man is, he argues, a chance thing. God may have set the universe up in such a way that some kind of intelligent life is inevitable, but what kind of life was left undesigned.

I see no reason as a theist, or as a Christian, to believe the existence of human beings is a part of God's plan. This may seem a shocking statement. Let me attempt to palliate the shock. First, I do not claim to *know* that the existence of our species is not part of God's plan. Secondly, I am sure that the existence of animals made in God's image - that is, rational animals having free will and capable of love - *is* a part of God's plan. I am simply not convinced that that He had any *particular* species in mind. [1995 p55-56 Emphases in original].

Inwagen goes on to discuss the notion of indefinite decrees. He supposes that God makes thing happen by issuing decrees or commands. So God says, "Let there be light". Inwagen says that this action of issuing a decree "is the same action as His creating light." [p48]. Are all God's decrees definite and specific? Inwagen argues that this need not be the case; God could issue indefinite decrees. For example, imagine that God wants X or Y to come into existence. There are, says Inwagen, three possible decrees He could give:

(1) "Let X be"

(2) "Let Y be"

(3) "Let either X or Y be."

The first two decrees are definite and specific, while the third one is indefinite. God decrees that X or Y should be "without decreeing that X should be and without decreeing that Y should be." Inwagen goes onto say,

Suppose God does decree that *either* X or Y exist; suppose Y thereupon comes into existence. Then it is no part of God's plan that Y - *as opposed to* X - exist, and the result of His decree might just as well have been the existence of X. We may therefore say that Y exists owing simply to chance, and that every result or consequence of Y that would not also be a result of X is due to chance. [p57-58 Emphases in original]

In passing, I think we ought to note that by such expressions as "due to chance". Inwagen has no intention of personifying or hypostasising chance, although sometimes he does give that impression.[179] Remarkably in one respect, Aquinas' position and

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[179] Donald MacKay, in his response to Jacques Monod's *Chance and Necessity*, complains that the latter makes this kind of mistake: "Chance in science is not the name of a thing or agent, least of all the *cause* or a *source* of anything; it stands for the *absence* of an assignable cause." [p33 1978 Quoted in Bartholomew 1984 p23].

Inwagen's are similar. As we have seen, Aquinas seems to argue that at least with some parts of His creative act God leaves the specifics undetermined:

> God knows how many individual perishable things he has created, though he has not predefined how many cattle and how many flies as such, but provides whatever number is necessary to preserve the species. [4,23,7]

Here Aquinas leaves room for chance in Inwagen's sense: the actual number of flies is not planned and was no part of God's design for the world. Admittedly, He 'guides' the number so to speak - there is enough to preserve the species - but the specifics are left to chance because the actual number is unplanned. Now Aquinas does go on to say that God's indeterminateness as regards flies and cattle contrasts with His specific plans for mankind. The number of elect, for example, is not left to chance - it is determined by God. Inwagen with his insistence that Alice's death was a divinely unplanned event leaves much more room for indeterminateness in his account.[180]

Most of what Inwagen says applies to a world that is up and running so to speak, whereas the concern in this thesis is a world brought into existence out of nothing. How far does what he says apply to *creatio ex nihilo* and the idea of indeterminateness in the Peirce/Hartshorne account? Peirce and Hartshorne argue that it is the nature of continua that they are unspecified before they are determinate or, what comes to the same thing, before they are created. There is no determinateness in the realm of the possible; that is left only for actual objects. However, the possible is not entirely ruleless; there are classes of continua. So the continuum of colour contains no determinate colour, but from that continuum comes a colour rather than some other thing. God cannot 'see' what colour He is going to make actual because there are no colours on the continuum of colour so what colour comes to be is not planned. There is no specific shade of blue, for example, waiting in the realm of the possible. Only actual colours are specific. As we have seen, such an account has many attractions. But is it a welcome consequence that the specifics of creation are left to chance in the sense that the actual colours, the actual people, the actual everything is not planned? That this is a consequence of the Peirce and Hartshorne account cannot be denied. God cannot decide to make the actual

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[180] See also Brown 1989 esp 52-53 where he argues that, although there may be an overall divine purpose to the sufferings of creation, there has to be indeterminacy in whom that suffering will affect. This indeterminancy is the result of man's free will.

me to exist before creation because there is no such object as a possible me. God may have a plan in the sense of generality: "I will use my capacity to create creatures that are rational and have free will",[181] but the actual creatures in all their determinateness are not something that can be planned for. To apply the language Inwagen uses: God issues an indefinite decree; the specifics are unplanned.

Inwagen's account ends with a consideration of how his analysis of God's relationship with creation changes the the problem of evil. Traditionally the problem has been. "How do we reconcile the existence of evil with a God whose creative act left nothing to chance?" The model in the traditional picture has God planning the world in minute detail. We must, therefore, find *reasons* for the evil that occurs in the world. We must uncover the plan, the reason for evil occurring: the familiar notion of God planning the Fall so that His glory could be all the greater and our gratitude all the stronger is one such account.[182] Inwagen says that if his account is correct this uncovering of reasons for specific evil is misplaced:

> If what I have said is true, it yields a moral for students of the problem of evil: Do not attempt any solution to this problem that entails that every particular evil has a purpose, or that, with respect to every individual misfortune, or every devastating earthquake, or every disease, God has some special reason for allowing it. Concentrate rather on the problem of what sort of reasons a loving and providential God might have for allowing His creatures to live in a world in which many of the evils that happen to them happen to them for no reason at all. [1995 p65].

Inwagen's instructions to students of the problem of evil may appear paradoxical. If we can give reasons for the reasonless events that happen to people, how can we say they are reasonless events. The paradox is only apparent, however. Inwagen's request is that theists look towards large scale general reasons for allowing particular, unplanned and reasonless events. So what reasons might we offer if God's creation has chance built into its very foundation, if God could not know and plan for yours and my existence in the world?

Before offering my own reasons why this might be the case in the case of *creatio ex nihilo*, let us look at a couple of influential accounts of why God has chance built into

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[181] God can know free will and rationality since they are determinate actual constituents of His own nature.
[182] This account falls under the general notion of "O felix culpa..etc"

the structure of the world. William G. Pollard's *Chance and Providence* tries to show how chance is not something that Christians ought to be wary of - indeed, his advice is to "welcome it enthusiastically." [1958 p97]. Why is Pollard so enthusuastic about chance?

Pollard defines chance thus:

> When we speak of chance as a factor in history, we have in mind the existence, as a typical feature of natural processes, of alternative responses to a given set of causitive influences for which the laws of nature specify only the relative probabilities. [earlier in the book, Pollard has discussed quantum probabilistic laws] [p73]

So the initial causal factors for any historical event do not determine the outcome, rather there are a range of possible outcomes. This non-deterministic view of history, the fact that chance can play a role leaves room for an interpretation of historical events by the believing community. These interpretations of historical events typically evoke God as a guiding influence:

> One and the same event can equally well be regarded as under the full sway of all the laws of nature and natural causality and at the same time under the full sway of the divine will. The reason is that the laws of nature prescribe only the chance or probability of the event under the given set of circumstances in which it occurred. [p94]

This may lead one to suppose that hidden behind apparent chance-like quantum events, God is the secret causal influence. But this would be to misinterpret Pollard - he is insistent that God is not a cause of events amongst others as if He is always making the die roll over one more time to suit His own purposes. The notion of God being, as it were, a secret cause behind the apparent ones is rejected by Pollard. The word "cause" scientifically connotes a repeatable sequence of cause and effect and obviously such repeatability is not a practical feature of events like the Exodus from Egypt. Because such events only happen once, there can be no experiments to determine the extent of the putative divine cause. God, then, is not an extra, but unlocatable ingredient which is ultimately causitive of any historical event. He is not a cause amongst others.

Despite Pollard's wariness of the word "cause" we can at least say that he is claiming that chance and the accidental[183] are not, in reality, blind, rather they allow a certain 'looseness' in the world in which it is possible for Christians to see God's hands at work. Thus Christians should not be perturbed by scientific announcements that evolution is the work of chance, instead we must, as I quoted earlier, "welcome it enthusiastically".

Pollard's notion of chance and its place in God's providential concern is very different to Inwagen's. For Pollard chance is, in fact, nothing of the kind; it is the way in which God influences events towards the direction He chooses. It is the direct way in which God implements His plan for the world. For Inwagen, chance is the absence of plan. Behind a tragedy (like the death of Alice) there is no reason, at least for this specific case. It happened just because she was where we was and because the brakes were faulty. There is no grand divine plan in the particularity of Alice's death.

D. J. Bartholomew is another who has looked at how God might use chance. He claims that far from being a disproof of God's existence, the existence of chance is part of the divine plan. Bartholomew distinguishes between chance and pure chance. Chance events, as opposed to pure chance events, are only apparently causeless. The crash of an aircraft looks like a chance affair, but if we knew enough we would be able to see that the crash had various causal factors. Similarly, the landing of a ball on the roulette wheel is, in fact, a complex interaction of various causes. A pure chance event, on the other hand, is where "no causal explanation can be conceived of in the present state of knowledge." [1984 p68] Here we can see Bartholomew allying himself with that second notion of chance outlined at the beginning of this chapter.

Chance and pure chance, in the senses indicated, can produce order or regularity. For example, although the radioactive decay of iodine 131 is a random process (each atom's decay is unpredictable), we can predict that in eight days half will decay. So, although we cannot predict which atom will decay at any time, on a larger scale the decay is

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[183] Pollard makes a useful distinction between chance and accident. Chance is to do with the openness of individual events to different outcomes, while accident refers to the coincident collocation of two causally unrelated chains of events. The collocation of these two events determines the outcome of one or both of the sequences of events. Thus the rain that stops play is an accident which ultimately makes the match a draw.

predictable and orderly. Batholomew gives many examples of how even pure chance processes can produce predictable results. The theological idea behind his examples is that God can avoid a world of pure determinism, while also producing a desired end.[184] These non-deterministic processes can leave "room for the exercise of real freedom on the part of individuals." [p82]. Chance, then, is part of God's plan for the world: it fosters freedom and creativity, while also producing order and regularity. This non-deterministic outlook carries risks, however, and Bartholomew is frank about the fact that, although on a large scale the world goes towards its Maker's desired ends, not all particular events express God's will:

> Our basic position is therefore that chance is real and not wholly the product of our ignorance; that chance happenings are part of God's overall plan but that events occur which do not express his direct intention. Further, some events, for example, those resulting from free human decisions, may be contrary to his will. [p94]

How does this account of the place of chance in the world relate to Inwagen's account? Immediately we can see that there is a great deal of affinity between the two accounts. For Inwagen there are general divine decrees that loosely determine the general direction of the world, but leave the specifics to themselves. Bartholomew is of the same mind as can be seen by the quotation given above. Particular events may be contrary to the divine purpose and therefore not part of the plan (although Bartholomew does not put it in terms of not expresing the divine plan[185]), but as regards large scale plans - the aggregates of numerous small scale events - God is able to be sure that His intentions will be realized.[186]

We can relate this idea of chance being an integral part of God's creative act to the notion of God's sovereignty. What kind of sovereignty or providential care does God

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[184] Rémy Lestienne mentions this idea in *The Creative Power of Chance*: p132.
[185] Perhaps Bartholomew does not want to express it in this way because he thinks it is enough that the specific event, although not specifically willed, is subsumed under the overal divine intention. I think Inwagen's language is more honest on this point.
[186] Both Inwagen and Bartholomew argue that God can direct the course of the world posterior to creation. In other words, God can work miracles. God's plan in Christ would have been ruined if Christ had contracted a fatal disease in His childhood. By an act of special providence such a disease could be eliminated. The general idea is that if creation should chance to go off track by too much, God intervenes to put it back on course. Inwagen has some interesting ideas on how to avoid the language of intervention that I used in the last sentence [1988 p45-48].

have in relation to His creation of the world? As we have seen, most traditional thinkers think that God's providence is specific. John Sanders in *The God Who Risks* defines specific sovereignty as follows:

> Specific sovereignty (sometimes called meticulous providence) maintains that there are absolutely no limitations, hindrances or insurmoutable obstacles for God to achieve his will in every specific circumstance of the created order. God has *exhaustive* control over each situation: Only what God purposes to happen in that particular time and place to that specific creature will happen. God does not take risks in governing the world because God micromanages every detail. [1998 p211 Emphasis in original].

Calvin expresses this view finding those who claim that chance has a place in God's created order defraud God of His proper glory:

> That this distinction may be be more manifest[187], we must consider that the Providence of God, as taught in Scripture, is opposed to fortune and fortuitous causes. By an erroneous opinion prevailing in all ages, an opinion almost universally prevailing in our day, viz., that all things happen fortuitously, the true doctrine of Providence has not only been obscured, but almost buried. If one falls among robbers, or ravenous beasts; if a sudden gust of wind at sea causes shipwreck; if one is struck down by the fall of a house or a tree; if another, when wandering through desert paths, meets with deliverance; or, after being tossed by the waves, arrives in port, and makes some wondrous hair-breadth escape from death - all these occurrences, prosperous as well as adverse, carnal sense will attribute to fortune. But whoso has learned from the mouth of Christ that all of the hairs of his head are numbered, (Matt, x.30,) will look further for the cause, and hold that all events whatsoever are governed by the secret counsel of God. [Institutes 1, 16, 2 trans Beveridge 1845].

In contast to this notion of specific providence is the idea of general providence, which holds that God "sets up general structures or an overall framework for meaning and allows creatures significant input into exactly how things will turn out...In contrast to specific sovereignty, this model does not claim that God has a specific purpose for each and every event that happens." [Sanders 1998 p213-214].[188] It *must* be the case, if we follow the Peirce/Harshorne model of possibility, that God's sovereignty over His

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[187] Calvin has been looking at the distinction between God's initial creative act and His governance of creation. God had specific sovereignty over what He chose to create and also over the order of creation subsequent to that act.

[188] We might contrast the notion of specific providence with Plato's discussion of God's relation to the bad things that happen to individuals. God, argues Plato, is only responsible for the good things that happen "we must find another cause for the bad [things], not a god" *Republic* Book 2, 279c, trans G Grube.

initial creative act is general. Sanders says that God can sovereignly *choose* what type of sovereignty He is going to have in relation to the world, but this cannot be the case if only general specifications can be made for a created world. The traditional Leibnizean picture of possible worlds implies that God has specific sovereignty over what to create, while for Peirce and Hartshorne this type of sovereignty simply cannot obtain. God cannot know what He is going to make - there is an unavoidable - logically unavoidable - indefiniteness in God's decree "Let there be light." He cannot, so to speak, control the specifics of what that light is going to be like; He cannot control its hue. Such talk is meaningless if God's capacity to create is modelled on the continuum analysis of modality.

Thus if the Peirce/Hartshorne account is true, chance *must* be an integral part of any creative act that involves the creation of non-mathematical objects, i.e., the kind of objects that do not admit of pure intellectual understanding or, to put it another way, have durance. We cannot ask why God has left somethings unplanned since this non-planning was logically unavoidable. It simply could not be foreseen what Adam and Eve were going to look like, how rational creatures made in the image of God were going to turn out. Both Inwagen and Batholomew seem to be of the opinion that there is no trouble in God knowing exactly what He was going to make - the problem of chance, in their sense, arises precisely because it is avoidable. God could have made, they say, a world where chance was not an integral part. All God had to do was make a world of strict deterministic causal laws where nothing deviates from its predicted path. But there is no predictable path as to the nature of the world, except perhaps that which is reducible to mathematical operations.

The notion of chance arises, then, not because God could have avoided it, but because as soon as He created, chance was there. There were specific particulars that could not have been foreseen and for which there was no plan. So the question is not, why did God create a world with chance, but why did He create at all? I have suggested a few answers to this question: to my mind, it is precisely because it could not be planned for. It is for its novelty, its freshness and its originality. This world is not just a copy of some pre-existent thing like a divine idea. As we have seen, things that are genuinely other can form a relationship with their Maker - they are not, in some way, really Him created in order that God can look at Himself. Let us now look at the way in which this

notion of chance being an unavoidable consequence of the decision to create coheres with certain ways of looking at the Genesis account.[189]

Genesis and *Creatio ex Nihilo*

Jon Levenson's book *Creation and the Persistence of Evil* has some very thought-provoking comments on the creation story in the Hebrew Bible.[190] Most understandings of creation assume it to have been a fairly straight-forward matter: it is God giving decrees such as "Let there be light" and then light coming to be. Certainly creation is wonderful and too mysterious for us us to comprehend, but essentially for an omnipotent deity there is no problem as regards the creation itself. He just commands and the world comes to be. In this traditional understanding, the notion that God rested on the seventh day is mystifying. If there was not any struggle, any real work done, why does God have to rest? Levenson tries to show, that in the original Hebrew idea of God, God's omnipotence is not as 'easy' as the traditional understandings would have us accept. He wants us to recognise the *drama* of the account of creation, the struggle with recalcitrant forces that is implicit in the Biblical text.

The 'easy' idea of *creatio ex nihilo* is, then for Levenson, an alien concept to the Hebrew Bible. He traces another, very different understanding, which claims that instead of nothing being the antithesis of creation, chaos stands as that which God opposes in His creative act. For this reason, Levenson likes the word 'mastery' in relation to God's creation of the world. One can hardly suppose that God mastered nothing; rather He mastered opposing forces of chaos and thereby instituted a world of order. Levenson examines the notion championed by Yehezkel Kaufman that the basic idea of Israelite religion is this notion of mastery. However, as far as Levenson is concerned, Kaufman's notion of mastery is not nuanced enough. The concept of mastery in creation is not the simple matter of that which distinguishes Judaism from pagan notions of God. Indeed, if we look closely at creative narratives in the Bible we find consonances and parallels with Babylonian epics such as the *Enuma elish*. In the Babylonian creation stories we find a series of conflicts and struggles between various

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[189] Naturally, in a thesis of this size, this cannot be done at any great length. We only have time for the highlights.

[190] Readers of Levenson's analysis of the Jewish creation narratives will know that his account is a lot more nuanced than my brief summary suggests.

gods until one is enthroned by a kind of collegiate decision as King. Levenson argues that Kaufmann overdraws the contrast between the stories given in the Bible and the story told in the *Enuma elish*: the Bible itself tells of God's struggle to overcome forces inimical to His ordering of creation. Levenson's key text, in this regard, is Psalm 74: 12-17:

> O God, my king of old
> who brings deliverance throughout the land;
> it was You who drove back the sea with Your might
> who smashed the heads of the monsters of Leviathan,
> who left him as food for the denizens of the desert;
> it was you who released springs and torrents,
> who made mighty rivers run dry;
> the day is yours, the night also;
> it was You who set in place the moon and the sun;
> You who fixed all the boundaries of the earth;
> summer and winter - You made them. [New Jewish Version]

Comments Levenson:

> Psalm 74:12-17 attests eloquently to the Israelite myth of combat between God and aquatic beasts, followed by a triumphant act of world ordering. This is a myth that speaks of God's total mastery not as something self-evident, unthreatened, and extant from all eternity, but as something won, as something dramitic and exciting. [1994 p9].

Creation, then, was not the unopposed, 'simple' act that follows from the doctrine of *creatio ex nihilo*, but a drama which took place in an environment where God triumphantly mastered forces that did not want order to be imposed upon them.[191]

Levenson goes on to argue that this opposition to God's creative ordering persists after creation. Although God has had the victory against the forces of chaos, their presence is

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[191] For detailed background about the origins of the myth of Leviathan and a defence of the claim that the Old Testament does causally relate creation with conflict, see John Day 1985. Incidentally, Day argues that this myth is actually Canaanite in origin rather than having its source in the *Enuma elish* [see esp p1-18]. He also concludes with some remarks on how seriously the users of these myths would have taken them. Were they, like Milton, just citing the myth or was its use meant to be literal [see p188-189]? We can contrast this kind of claim that creation was a struggle with Rad's analysis of the Hebrew word for create, "bara", which he says implies effortlessness [Rad 1963 p47].

still a cause for concern. In relation to this point about the continued survival of chaos, Levenson discusses Job 40:25-32 where Leviathan is described as under the mastery of God: indeed he is there to sport with. But, says Levenson, in these and other passages, chaos is not annihilated and so continues to exist as a possible challenger to God's order:

> In each case [Psalm 104:26, 104: 6-9, Job 38:8-11 and Job 40:25-32] the confinement of chaos rather than its elimination is the essence of creation, and the survival of ordered reality hangs only upon God's vigilance in ensuring that those cosmic dykes do not fail, that the bars and doors of the Sea's jail cell do not give way, that the great fish does not slip the hook.[192] [p17].

Creation, if we follow this view, is not a matter of God's decree and its straighforward fulfilment. We must recognise the drama of the Hebrew account of creation. Even in Genesis 1 there are traces of this combatitive view of creation: for example, there is the debate about the first two verses:

> When God began to create heaven and earth, the earth was unformed and void, and darkness was over the surface of the deep; and the spirit of God hovered over the water. [NJV]

Here the normal English translation "was unformed and void" could equally well be replaced with "was chaos".[193] Now chaos is obviously not nothing - Levenson says that in ancient midrash the "exegesis of Genesis 1:1-2 is that God did not create the good world out of nothing, but out of a malignant substratum." [pXX]. Indeed, in this verse we have a sinister mention of darkness. So, in Genesis, there is the distrubing hint that creation was not a 'simple' act of *creatio ex nihilo*. Furthermore, even after the creative act, not all that God makes appears to be good:

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[192] Levenson goes on from there to draw parallels with our reliance on God's vigilance over chaos and the notion of covenant. God's pledge is to ensure that these forces are never unleashed, although much lament literature harangues God for letting too much injustice and chaos into the world.

[193] The Hebrew is "*tohu wabohu*". Rad's discussion of these crucial words is very similar. Rad, however, goes onto to say that the idea of *creatio ex nihilo* is there as well. See also Walter Brueggemann's discussion of Hebrew verbs of creation in *Theology of the Old Testament* [p146-153]. Brueggemann discusses Levenson's kind of approach (which he approves of): p534-549. Westermann, in contrast, says that although there are signs of the Babylonian Enuma Elish stories behind the Genesis account there is "no sign of conflict" [1974 p40].

God said, Let there be light,"; and there was light. God saw that the light was good, and God separated it from the darkness. [NJV Gen. 1:3-4].

It is only the light that is perceived to be good; indeed to underline the point God separates the darkness from the light. Levenson makes the point that "Not everything is good or conforms to God's highest intentions." [pXXIV].

It is time to draw out the parallels with Levenson's views of Biblical creation narratives and the point about chance being an unavoidable part of creation. Part of the point that Levenson is trying to make is that there is an unavoidable chaotic aspect to creation - it is a thing that involves struggle and drama and the risk that darkness may be created as well as light. Chance, too according to the analysis examined in this thesis, is something against which God has to contend if His ordered purposes are going to prevail. Although Levenson denies that creation was *ex nihilo*, we still have a logically unavoidable risk if we accept the doctrine - at least if we accept that possibility is indeterminate. Creation out of nothing has its own dramas: it involves the making of that which God had not foreseen or planned for. It involves the risk of chance. It is important, however, not to draw the parallels too close together. In Levenson's analysis, the forces of chaos are real forces with their own agenda of destruction, but it is not acceptable to hypostatize chance as if it were something in its own right. By chance is merely meant the happening of an event or the existence of a state of affairs that is not planned for.

Let us turn our attention to another exegesis of the Genesis creation story given by Henry Frankfurt in an article entitled 'On God's Creation'. It is hard to categorize Frankfurt's approach. Probably the best thing to say is that it is a mixture of theological musings and philosophy. Nevertheless it is an interesting and suggestive approach to the Genesis narrative. The first thing to note is that Frankfurt, like Levenson, denies that the idea that Genesis teaches the notion that creation is *ex nihilo*. After quoting Genesis 1:1-3 [using the New Jewish Version], he discusses the two Hebrew words which are translated as "unformed" and "void": "*tohu*" and "*bohu*" respectively. Frankfurt quotes from eleventh century commentator Rashi on the meaning of these two words: "The word *bohu* has the meaning of emptiness and void", while "the word *tohu* has the meaning of astonishment and amazement...for a person would be astonished and amazed at the void in the world." [Isaiah and Sharfman 1949 p3. Quoted by Frankfurt

1999 p119]. Why is it, asks Frankfurt, that it is so surprising? Why is the void so astonishing?

...it is difficult to construe the assertion that the world was *tohu* and *bohu* as consistent with the supposition that the earth did not exist. After all, what could be so surprising about the non-existence of the earth before creation began? No one examining the state of affairs prior to creation of light would be astonished or amazed to discover an empty space at the location destined in due course to be occupied by the earth. [p119]

We must suppose, therefore, that the world did exist before creation, but was unformed or void in some way. But how can we understand the formlessness or the void of the earth? Perhaps, suggests Frankfurt, the Genesis account can be construed as implying that the "condition of the earth was indeterminate."[194] [p120]. This would explain the sense of astonishment or amazement implicit in the word *tohu* because anyone examining the condition of the earth before creation would be "dumbfounded by the fact that the earth does not possess a definite nature at all: it exists, but it lacks distinct and fully articulated properties...It is a void in the sense of being blank, with no identifiable character."

For Frankfurt, then, the Genesis account leaves us in no doubt as to the pre-existence of the earth and its inchoate[195] nature. The process of creation is not, therefore, creation out of nothing, but creation out of chaos. Again, despite Frankfurt's denial of *creatio ex nihilo*, we see obvious resonances between this approach to creation and the one being examined in this thesis. Both claim there is an unavoidability in God's dealing with something inchoate and characterless, that God must contend with chance if order and definite character are to win the day. However, the argument I am exploring says that there was really nothing in a radical sense of nothing and that the indefiniteness and chance nature is due to the nature of possibility itself. Possibility is grounded in the capacity of God to create, but this capacity is to be looked at as a continuum which

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[194] I use the words "perhaps" and "suggests" in this sentence as hedges, but Frankfurt simply declares it to be the case. Frankfurt's approach is idiosyncratic. He throws in ideas and notions seemingly at random. Perhaps he relies too much upon the kind of linguistic analysis criticised by James Barr in *The Semantics of Biblical Language* whereby theologians reflect upon meanings of individual words and phrases and their semantic value which were probably far from the minds of the authors themselves.
[195] The word 'inchoate' derives from the Latin word 'inchoare' which means 'to start work upon'.

admits no individuals. So the inchoate nature of possibility is founded in God Himself. The capacity to create is only made definite in the creation itself.[196]

We discussed in the previous chapter how evil could not have been foreseen by God. It arose out of the centres of durance that God created - these centres could not be foreknown by God, nor, for even stronger reasons, could the evil that arose from them. In the next chapter, we explore the notion of creativity, which I think will shed light upon these notions. It will show how evil could arise, not from God's creativity for that is always good, but from the centres of durance that God created. We shall see that, in a limited way, finite agent based creativity can also be said to create *ex nihilo*. It is from these finite, creative centres of durance that evil comes.

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[196] Frankfurt says something about the changing nature of God in His creative act that bears some resemblance to this suggestion. He notes that in the first verse of Genesis 1 that the first mention of deity is not to God *per se*, but to the spirit of God who hovers over the water. Why spirit of God instead of God? The word "spirit" implies the "general tendency or style that informs [something's] various purposes." The word "hover" which comes immediately after suggests a kind of static energy or unformed purpose, after all hovering is a strange kind of mixture between movement (purpose) and stillness (unformed but potent). Once God has created He is referred to as God rather than the spirit of God. It is as if the act of creating makes what was the essence or spirit of God lose its indefinite "hovering" type character and becomes more fully determinate. Thus, to use my terms, the indefiniteness bound up with the notion of capacities is made concrete and definite by the act of making a world.

Part Three
Creativity and
Creatio ex Nihilo

Chapter Ten

The Notion of Creativity

In this thesis so far, we have mainly concentrated on the *ex nihilo* part of *creatio ex nihilo*. We have been looking at the metaphysics and ontology of the doctrine that God created from nothing. What we need to do now is look at the nature of the creative act itself. As we do so, we shall see how the metaphysical and ontological aspects of God's creating from nothing link up with the real essence of any creative act. We shall see that God's creative act was utterly unconstrained by external reality and therefore truly free. We shall also examine the real sense in which finite personal agents can be said to create *ex nihilo* and so be said to create new things some of which are evil. In looking at these issues, we will also readdress the question of why God made the world.

Let us start straightaway with an examination of the act of creation. Here we must start with human creativity for it provides the only model we have for an understanding of divine creativity. I hope that as we look at human creation, we shall also learn something about the essence of the divine creative act *ex nihilo*. Carl Hausman has written extensively on the subject of creativity, and it is to his ideas we shall chiefly turn, in particular his thought-provoking *A Discourse on Novelty and Creation*. In this book, Hausman argues that what he calls determinism is false and that instances of 'Novelty Proper' can occur. That is to say, genuinely new items come to exist by virtue of creative acts which were in principle impossible to predict. There are, that is, discontinuities or breaks in reality. Hausman's notion of a discontinuity or break in reality can best be understood by looking at the opposite deterministic view. The determinist insists that in order to rationalize[197] and understand a new thing we must have a seamless and continuous reality before us. The new thing can only be new in appearance. It can only be superficially new. The person who wants to understand this 'new' thing must uncover the way it connects to the past. She will discover that the new

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[197] Hausman explains that he uses the word 'rationalism' and its cognates very loosely: "It should be obvious that I must use the term 'rationalist' in the broadest possible sense to refer to any approach that views experience as understandable through principles and (at least in part) conceptual schemes." [p3]. In this chapter, I follow Hausman in this usage.

thing is in fact a previously untried arrangement of pre-existent items and thus novelty is not genuine but consigned to the category of appearance. Such 'creations' can be predicted (in principle) precisely because they are rearrangements of the previously existent. We do not need to make any epistemological jumps of faith for the world can allow no gaps between the old and the new. The new is in fact the old in disguise.

In order to counter this suggestion and show how newness is not merely a matter of phenomenology or appearance, Hausman asks us to imagine that an observer has come across something that appears to be new. Initially it appears to be something that breaks from the past; it appears to run counter to the deterministic understanding of the continuity of reality. As time goes by, however, the new thing is shown to be only a poorly or partially understood thing. Once it is fully understood, the appearance of newness vanishes and it is accommodated into previous categories. It has in reality always fitted in - the appearance of discontinuity was a result of partial understanding. But, says Hausman, how is the deterministic network going to cope with the "transformation of consciousness" that this accommodation of the old with the new demands? Hausman uses the example of a virus. Initially it is seen as new, but then once it is fully understood it is shown to be merely "a recently discovered virus". It had previously existed for millennia. However, argues Hausman, now we have a new piece of knowledge. Our biological knowledge has been transformed. How is this transformation of biological knowledge meant to be accommodated within the deterministic system?

> How can the determinist account for this [transformation of biological knowledge]? Such a transformation of consciousness is itself an appearance of novelty - an appearance the theorist must either grant to be outside of his determinism or accept as an illusion demanding explanation by his theory. And if he were successfully to turn his theoretical sights upon this illusion he would once more be faced with the need for reflecting upon his own transformation of consciousness...as he discovered the place of the first transformation of consciousness in his deterministic network. And I submit that this reflective process would be required *ad infinitum*, unless the theory broke with its deterministic presuppositions and assumed a principle of creativity...[1984 p78]

So we must either assume that something can be genuinely new and thus break from the past or be committed to a never-ending hierarchy of explanations each one explaining away the new only to reintroduce it on the next level. Hausman concludes that the

rationalistic assumption that determinism is true leads to this vain and hopeless search for a final explanation. The way out is to assume that the genuinely novel can come to exist, that the phenomenological awareness of newness does not deceive, but reveals that the new does actually exist. He says,

> To affirm that spontaneity is real as well as phenomenally observed - to affirm that appearances of Novelty Proper cannot be explained away or shown to be illusions awaiting more comprehensive knowledge - is no less reasonable, at bottom, than determinism. [1984 p80]

The assertion that Novelty Proper exists extra-mentally leads to the belief in discontinuities in the world, but the belief in determinism, which affirms continuity, leads to an infinite regress. Both are paradoxical. Indeed, Hausman takes paradox as a defining mark of the novel. He welcomes the conceptual tension it introduces into our scheme of thought. Let us now investigate his affirmation of the paradoxical nature of the creative act.

If newness comes to exist as a result of a creative act, we find that the creative mind has a paradox at its centre. The creative mind, in one sense, knows what it wants to create - say a painting of a river, but obviously cannot be said to have the painting in mind since the painting itself does not yet exist. Only the general nature of the painting can be said to be in the mind of the artist.[198] The creative process which results in the evolution of an instance of Novelty Proper is both planned and discovered - a conglomeration of design and unpredictable novelty. Hausman explains,

> At first [the artist] senses that certain elements are required in the future product, but he does not yet know what these are. And as he creates, he somehow discovers what he wants to create. He formulates his plan at the same time that he comes to see what the plan is - at the same time that he sees what is required to complete the process he started. Paradoxically, then, the creator must at once create and discover. [Ibid p11]

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[198] Vincent Tomas in his article 'Creativity in Art' employs a useful analogy which may help to shed some light on these ideas. When a rifleman aims his gun at the target, he knows exactly what he wants to do. He knows the target - it is before him. He knows what will constitute success - causing a hole to appear in the target. There is a determinate end to which his action is directed. The same cannot be said for the artist. He has no determinate object in mind to which his efforts are directed and he does not yet know what success will look like. (See Tomas 1958 especially p1-3.)

The creative process is paradoxical because of this tension between the planned - the known - and the discovered - the unknown. The creative process cannot then be the subject of rational explanation. We cannot explain the creative process because of this irreducible unknowness at its centre. Because it breaks the continuity of the world, it interrupts the smooth flow that rational explanation is able to accommodate within its boundaries.

The paradoxical nature of creation does not mean that the creative process is irrational. For this to be the case we would have to insist that the break from the past was absolute, that the new thing was new in every aspect, but this is not the case. A painting is not new in every aspect. The skill of the creative artist is to take the old and previously known - say a traditional way of painting rivers - and use it in such a way that it breaks the smooth unfurling of previously existing things and results in a new painting - a new way of looking at the river. The result - the painting - was, because of its newness, not predictable. We have then, in one sense, a rationalizable connection with the past. The pigments were previously known, as are other pictures of rivers, but this actual picture, given the skill of the artist, also can be said to break from the past and so we have this conceptual tension between the previously known and the discontinuous unknown. Because the artist (partly) ventures into the unknown, he cannot (fully) know where he is heading as he creates.

Plato, of course, insists on something similar when in the *Ion* and the *Phaedrus* he talks about the divinely inspirational character of art.[199] The artist, claims Plato, does not know what he is doing as he creates; there is no *mastery* in poetry - that is, a communicable body of wisdom. There is mastery in medicine since there is a communicable body of lore that can be learnt - the same is true for architecture and horsemanship. But in poetry there is no such rationalizable technique or body of wisdom. And so Socrates complains to Ion that he has not told him exactly what he is clever about in his appreciation of Homer. Ion finds this impossible because, claims Socrates, poetry is not a communicable set of techniques or body of articulate wisdom, instead it is divinely inspired. Just as the followers of Bacchus work themselves into a frenzy and imagine themselves to be drinking rivers of honey and milk, so poets work in a kind of madness inspired by the gods [534b]. When the followers of Bacchus are

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[199] See *Ion* 533d-534e and *Phaedrus* 245a

not possessed they cannot drink from the rivers of the divine madness, so also the poets when not inspired find themselves unable to write good poetry. Poetry is a kind of inexplicable magnetism, inspired ultimately by the Muses.[200]

So, at least on the human level, art is non-rational. However, ultimately for Plato, art is explicable - the poet may not know what he is doing, but the forms guarantee that the gods know. The forms provide the exemplar material. They are the models which provide the raw basis for the craftsman's designs. The painter copies the bed made by the craftsman and so is at two removes from the truth of the bed. But the point is that ultimately art is explicable; the poet in his divine madness may not be able to say what he is doing, but the Muses when asked could provide an answer. The ideal observer is able to fit everything together and appreciate its continuity. Art is, therefore, from the human perspective, non-rational, but not so for the divine perspective.

For Plato, then, there is a conceptual tension at the level of the individual artist - a kind of artistic non-rationality. The artist does not know what he is doing as he creates - it emerges before his sight but was not previously known. However, if we widen our perspective to encompass the divine we see that what he creates was already known, at least as a form. There may appear to be breaks in the smooth continuity of the universe, but the divine perspective sees everything as a seamless, continuous whole.[201]

Hausman seems, at times, to suggest the same kind of thing. In his discussion of determinism, he says that the infinite hierarchy of explanations necessitated by determinism's vain search for finality could be completed by an omniscient mind. The finite individual may be forced to pile explanation upon explanation in his search for continuity, but a transcendent infinite individual could explain away what appeared locally as discontinuity. Hausman says, "...only if man could become God could he successfully deny or explain the phenomenal reality of novelty." [p79]. Now this, of course, is a contention that I want to argue against in this thesis. Novelty is occasioned by God's creativity not destroyed by his omniscience. However, before we go on to

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[200] See Asmis 1992 for an account of Plato's attitudes towards poetic creativity. Plato's supposed antipathy towards art is often exaggerated.

[201] On the general relationship between the arts and Christian theology see Begbie 1997 p101-121. See especially p106-107, where he argues that art must be directed towards materiality not away from it and this can be achieved in theology by a proper understanding of the doctrine of creation out of nothing.

discuss in more detail how Hausman's views about creativity relate to the view of God I have been discussing, let us examine another view about the idea of creativity. As we have seen, Hausman's central contentions relate to the paradoxical nature of the act of creativity, how it breaks from the past and thus sets up a challenge to determinism. Henri Bergson is another who finds the notion of creativity and novelty interesting and also argues that newness and novelty are central characteristics of the way the world evolves.

We have already looked at Bergson's views concerning durance. Utilizing this notion, we argued that creation cannot be seen as a smooth quasi-emanationist flow from God to world. Bergson's views on the notion of possibility are also relevant. Bergson argues that nothing possible precedes its realization. A new thing is thus not the actualization of something pre-existent, but the genuine evolution of something that had no precedents. Bergson thus distinguishes between an "unfurling" and "evolution". An unfurling is "a rearrangement of the pre-existing", while evolution, in his (perhaps misleading) terminology, is the emergence of the "radically new" [Bergson 2002 p21]. When one asks how that radically new thing was possible before its realization, Bergson insists that possibility is more of a negative lack of barrier to realization rather than the positive affirmation that something pre-exists its actuality. When someone says that war is possible and we agree we are not saying that somehow a war is already waiting in the wings, but that there is "no insurmountable obstacle to its realization." [Ibid p102]. Let me quote Bergson:

> In the particular sense that one calls possible what is not impossible; and it stands to reason that this non-impossibility of a thing is a condition of its realization. But the possible thus understood is in no degree virtual, something ideally pre-existent. If you close the gate you know that no one will cross the road; it does not follow that you can predict who will cross it when you open it. Nevertheless, from the quite negative sense of the term 'impossible' you pass quite surreptitiously, unconsciously to the positive sense. Possibility implied 'absence of hindrance' a few minutes ago: now you make of it a 'pre-existence under the form of an idea,' which is quite another thing. [Ibid p102]

This sliding over from the negative meaning of 'possible' (non-impossibility) to an illegitimate positive understanding (a thing's pre-existence) threatens to make the evolution of the world - its continuous creation - a mere unfurling or rearrangement of pre-existing materials. Bergson hopes to make plain the absurdity of the positive

meaning of possibility by discussing the nature of creativity - our central concern in this chapter. The artist in creating her work is he says, "creating the possible as well as the real". It is absurd to envisage the creation of a symphony as the making real of the possible. The symphony was possible in the negative sense already outlined - there was no insurmountable barrier to its realization. Once it has been created, it can stand as the referent of an expression declaring its possibility, but not before. Now that we have the expression - "Beethoven's Fifth Symphony was always possible" - we erroneously imagine that it was always the case that this precise expression could have been said, but it could not since, prior to its realization, there was no specific term "Fifth Symphony" that could have stood as the term in the judgement.[202] In this sense, the real creates the possible, rather than the possible becoming real [2002 p21-22].

If we now highlight the main points of contact between Bergson's view of creativity and Hausman's, we find many items of interest.[203] Both writers are concerned to affirm what Hausman calls Novelty Proper. Creation causes the realization of something which did not previously exist. Both realize that the idea that creation breaks from the past and causes discontinuity is an idea that is prone to paradox. Hausman sees this as a conceptual tension between what an artist knows and what he does not know, between the connection with the past and the drive forward into the unknown. Bergson sees creation as the creation of possibility as well as the real. Once something is made, only then is it possible in any positive sense. We can point to a painting and declare, "That painting was possible". Prior to its existence, no such judgement about the painting's possibility could be made. The creation of a thing - if it is new[204] - adds, so to speak, to the bulk of what is possible. Hausman, as we have seen, seems tempted to say that the ideal (infinite) observer could see the possibility of a thing prior to its realization. This is something that Bergson would be keen to deny. If the possibility of X as well as its reality is created at its birth, there is no sense in which we can claim that the thing exists

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[202] Here we see Bergson's ideas are virtually identical to Hartshorne's views about the time-indexed nature of propositions.
[203] Hausman discusses Bergson - see especially p72 and p81-84.
[204] Hausman has a interesting discussion of what it is to be a new thing: p18-46. I do not think we need to enter too much into this discussion as it leads us too far into aesthetics. The sense in which something *ex nihilo* is new is much more radical than the senses that Hausman talks about. However, see p89 for the idea of the creation of meaning *ex nihilo*.

as a possible object before it is made. Thus, before its existence, it is not there as an object available for scrutiny or to stand as the referent for a term in a judgement.

Free Will and the Creativity of God

We now turn our attention to Bergson's and Hausman's ideas about free will. We will use their ideas about this when we turn our attention from the idea of human creativity and look at the sense in which God is creative. As we have seen, creative action interrupts the smooth flow of continuity. Something irreducibly different results from the creative act. This makes it hard for us to rationalize the new thing that is created. There is a time of uncomfortable transition while we accommodate the new thing into the old, while changing the old to accommodate the new. But the vital point is the partial non-rationality of the created. It does not quite fit into the categories which previously existed. If it did, it would not be new. This tension between a created thing's partial fit with the old - the known - and its transcendence of the old - the unknown - is the paradox at the heart of creativity. Hausman calls this *spontaneity*. The spontaneous act, by its very nature, simply cannot be wholly rationalised. No doubt, partial answers can be given as to the genesis of a created work. Lowes' book *The Road to Xanadu* traces the ancestry of Coleridge's poem and thus provides us with an insight into the making of his poem, but it cannot wholly bridge the gap between the old and the new. There is still the irreducible difference between Coleridge's poem and that which went before.

How does the mind 'jump' to that which is wholly new and which never existed before? No one knows - not because of ignorance, but because it is of the very nature of the jump and its spontaneity that it defies any kind of complete explanatory principle. Hausman is not saying that the jump is wholly irrational - as we have seen it can be partly explained - but that the irreducible difference it creates as it jumps cannot be fitted into categories which previously existed.

Bergson says something similar in his analysis of freedom. A creative act is not a choice between possibles because there are no such things as pre-existent possibles, instead a creative act creates its very possibility in its realization. Usually philosophical thought cannot cope with the dynamism of this philosophy of change and replaces it

with a staticity or fixedness which can be analysed and exhaustively explained. This tendency towards staticity rather than movement can be seen, says Bergson, in our temptation to spatialize time.[205] We think that our lives are a series of moments rather like a series of cinematographic plates.[206] This is a false picture of movement because it seems to imply that movement is, in the final analysis, an illusion. But movement is not an illusion, insists Bergson. It is precisely the very quality of our lives. Naturally we look for fixed points and such like and use these in our mathematics and physics, but the continuous nature of movement is something that cannot be made the subject of exhaustive mathematical enquiry. To suppose it can leads us straight to Zeno's paradoxes. Only through a kind of intuition can we see the *sui generis* quality of the movement of our lives. So my making a choice is not to be seen as a series of still lives where I am pictured confronted by two fixed roads and then pictured down one or other of them. This kind of picture breaks down the indivisible nature of movement and tries to fit it into categories where it does not belong.[207]

Bergson, then, argues for a dynamic philosophy which sees change as basic. Proponents of determinism try to divide time into fixed moments and make creation a series of choices between competing possibles. Yet libertarians are guilty of the same error. The libertarian says that a person can choose between different paths, while the determinist claims that a person is necessitated in some way to go down one of them. Bergson is saying that there are no paths because they are not there yet - indeed, only one will come to exist. Despite Robert Frost, the path not adventured down is not really there.[208] The paths have yet to be created and it is no use trying to talk sensibly about the completely non-existent.[209] This means that the whole libertarian versus determinism debate is otiose if it is based on the idea of pre-existent, ready made routes down which we are or are not compelled to go. Free action, like creative action, does not fit into the categories which depend upon staticity and mathematical fixed points. Bergson, like

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[205] One of Bergson's favourite subjects of criticism is the tendency to see time in spatial categories. For example, we say that one thing can be next to another thing in time, as if all there were to time is a sequence of static moments. The spatialization of time takes from time its movement or its durance. (See Bergson 2002 p12-17)

[206] Ibid p18.

[207] See Bergson's *Time and Free Will* p175-183 for his argument.

[208] 'The Road Not Taken' in his collection *Mountain Interval* of 1916. See Latham 2001 p105.

[209] See Moore 1996 chapter 7 for a discussion of Bergson's rejection of the idea that our lives 'branch'.

Hausman, is calling for human creativity to be understood as standing apart from principles that try to rationalize and exhaustively categorize. The creative action is at least partly non-rational.

With that background we can turn our attention to how these ideas about human creativity fit into the general pattern of thought about *creatio ex nihilo* which has been developed in this thesis. The connection is quite obvious: both writers assert that creation is, of its essence, a bringing forth of something radically new. And by 'radically new' they also affirm the *ex nihilo* status of acts of creation. For Bergson, the creation of something is not the rearrangement of existing items, but an evolution of something else that was not there before. Hausman is quite explicit on this point. When he discusses language and meaning he declares that creative speech brings forth new meanings *ex nihilo*. He says,

> Creative speech...marks a break in an established system of meaning. The created meanings were not discernible in what was familiar before their introduction. They are thus unprecedented and surprising in the light of established language. In this sense, they appear to be created *ex nihilo*. This sense of *ex nihilo* is frequently overlooked...But the fact that the determinist's intelligibility seems to be defied by the introduction into experience of the unfamiliar is not sufficient reason to reject the notion of *creatio ex nihilo*. [p89]

We must, however, proceed with some caution. Both writers discuss the *human* creative act, rather than God's creation of the world. When God created there was literally nothing out of which he could make His creation. I think Hausman and Bergson are right in some sense when they insist on the radical *ex nihilo* nature of human creativity, but we do not want to deprive the doctrine of *creatio ex nihilo* of one of its chief aims - the declaration that God's creation is radically unlike human creation.[210] At the moment, we might be seen as heading towards the idea that it is only a matter of *degree* which separates the divine from the human creation. Writers, sculptors, painters, dancers, musicians have so much that is already there to inspire them to write new poems, make new sculptures and so forth. God had nothing apart from himself. So while human creativity squeezes newness from so much, God pours novelty out of nothing. It seems to me, however, that the difference between God's *ex nihilo* creations and human *ex nihilo* is so extreme that the difference becomes one of a difference in kind. By

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[210] McMullin1987 insists on this point.

affirming God's ability to create completely *ex nihilo* are we not affirming His absolute self-sufficiency? Creative people rely on themselves, of course, but they also have to find inspiration in what is outside them as well. This reliance on external determinate things is, I suggest, a logically necessary element of any finite agent's creations. Every artist finds inspiration in those things that are external to her - even if it is language itself. 'But', the rejoinder may well come, 'is not the fact that humans always find inspiration outside of themselves not really just a matter of contingent, empirical fact. It is impossible for an artist to be a self-sufficient creator in a causal way, rather than it being a matter of logical impossibility. The difference, then, is just a matter of degree rather than of kind.' Here the critic is maintaining that the necessity of external influence in human creativity is merely a contingent necessity and that, therefore, given a new kind of environment, man could create in a purely self-sufficient manner. He concludes that the thesis developed here arrives at the unwelcome implication that it is *logically* possible for man to create in a similar way to God, i.e., *wholly* out of nothing.

In order to disarm the critic of his point, let us try to imagine a human artist so self-sufficient that nothing outside of himself is needed for him to create radically new things. This is a strange notion indeed. It would imply the painter needs no paint and the sculptor needs no stone and the dancer needs no limbs. The writer would need no words and the musician would need no instruments. I think it could be argued quite successfully that all what we might loosely call 'the tools of the trade' are actually logically necessary parts of the processes that human artists employ in their production of pieces of art. All these things or tools are outside of the artist and yet he seems to need them in order to do what he does.

In order to counter this argument our critic might envisage an artist who paints only conceptual pictures, who hums mental tunes and dances mental dances. In other words, we imagine an artist who comes up with creations of a purely mental kind. I am not a behaviourist, but I doubt the coherence of such a claim. This would mean the mental 'language' that he used would be a language not inspired by exterior factors.[211] It would be a logically private language. Those familiar with the debate about the possibility of a private language will realize that the conceptual coherence of the claim that a person

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[211] I am using 'language' here in a loose, but I think acceptable way. There is a language of dance and a language of sculpture because they share with words the essential factor of meaning.

could create a language solely in his own mental space is dubious. Meaning, it is claimed, is necessarily a public, shared thing.[212] I do not want to enter this debate here, but we can see that already the idea of self-sufficient artist loses more of its apparent coherence.[213]

Another argument uses the notion of the essential rationality of the creative act. As we saw earlier, the artist's creations are always a mix of the old and established - the known - whilst also a venture forth into the unknown. The old is the join, so to speak, with what is already there and understood. It is the link which makes the creation understandable, partially catergorizable. Naturally this rationalisation cannot be complete, since this would imply that the new thing was merely a rearrangement of the old. Now an artist who creates something that is *totally* new thereby creates something irrational, incomprehensible. We might say it is ugly, chaotic, disordered. Such things as these would not be creations. As Vincent Tomas observes, part of the meaning of the word 'creative' is honorific.[214] By saying something is creative we have approved of that which has been created. There can, therefore, be no creations that utterly bypass the categories which are already in place. The artist must look back at the past; she must find at least part of the source of inspiration in already established sources.[215]

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[212] We shall be following up these ideas in the next chapter.

[213] Music may appear to be an exception to this rule. Music does not seem to possess meaning in any straightforward sense and so the argument against a private language may look as if it does not apply to music. (Against this see Cooper 2003 who argues that music has meaning. In general, Cooper argues that meaning is a much more widely applicable than is sometimes supposed.) Could there be a composer who hums only mental tunes, but never performs or makes real his imaginary music? Collingwood certainly thinks so [1938 p139]. I am not sure if this is coherent, but what is certainly incoherent is the idea that a finite composer could create music without exterior influence. How is the composer going to mentally conceive even a single note without having previously heard the sound? I would argue - no doubt controversially - that music is a kind of sound. It is essentially heard and experienced and as an essentially experiential thing cannot be conceived in a wholly mental manner. Begbie 2000 emphasises the sound of music and argues that its meaning "is realised through the interplay between its processes and and a host of extra-musical processes and activities." [p19]

[214] Tomas 1958 p4-5.

[215] One might object and say that certain artists deliberately try to surprise their audience with creations of a kind which are created precisely because they are impossible to rationalize. For example, the "Theatre of the Absurd" tried to shock the audience with barely comprehensible pieces which seemed irrational. The artist can, therefore, aim to

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Now it might be thought here that in casting doubt on the conceptual coherence of a human artist creating something completely *ex nihilo* I have proved too much. Is it not the case that I have shown that God, too, cannot create *ex nihilo*? After all, if creation *ex nihilo* is shown to be conceptually unsound, is it not the case that God's creation *ex nihilo* is shown to be incoherent? But there is a crucial difference. In affirming God's ability to create *ex nihilo*, one is affirming that God is the source of all things. God is completely self-sufficient. He has no need of external items in order to inspire Him to create - He only needs Himself. As we argued when we looked at Ockham's doctrine of divine ideas, God has no need of determinate models in order for Him to create rationally. Why is this the case? Because God is the source of rationality, of reason itself. He has within Himself all the resources to create rationally. There is no sense in a human artist creating in a complete *ex nihilo* sense simply because all depend utterly and necessarily on the source of reason and creation, that is, God Himself. All finite beings need external elements in order to effect the creative act. Only God, who is the source of meaning and beauty, is able to create without the help of things outside Himself. Nebuchadnezzar learns this. He looks towards his 'own' creation, Babylon, which he thinks was built by "my mighty power as a royal residence and for the glory of my majesty." (Daniel 4v30 RSV). Immediately he hears a voice which tells him he will be driven out and be with the beasts of the field and eat grass like an ox. His reason, his sanity and his creativity find their ultimate ground in the divine. To think otherwise is to risk Nebuchadnezzar's fate. This is perhaps why Scripture seems generally sceptical about the notion of human creativity. The story of the Tower of Babel seems to point to the dangers of human creativity leading to arrogance and a neglect of the divine.[216]

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create that which is ugly, disordered and chaotic. I would argue here that the creativity in a piece of absurd theatre - if it is *fundamentally* absurd - is in the meaning behind its absurdity. The theatre of the absurd's rationale is, at least partly, its protest against convention and rationalization. This 'theory' behind absurd theatre is the creative thing, not the piece of theatre itself, which, if it is fundamentally and completely absurd, is actually incomprehensible.

[216] See Brown 1999 p337-345. See also Berdyaev 1928 who sees a regrettable schism between human creativity and the Church. Berdiaev thinks creativity is part of God's will for mankind: "Creativity assists in and does not impede salvation, since creativity is a fulfillment of the will of God, an obeying of God's call, a co-participation in the

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But we must be clear here. Recall that I am saying that there is a sense in which we, as creatures, can create *ex nihilo*. Naturally this is not the creation of matter *ex nihilo* - rather, I think, God, in His generosity has created centres of durance which can create new meanings which have no previous counterpart. Of course, I have been trying to affirm the idea that always the *starting* point for our creativity is the One who is source of reason and the origin of the very capacities we employ in our creative endeavours. Nevertheless, I do not think that the meanings of great works of art were in God's mind for all eternity waiting to be discovered. God has 'cut us free' from Himself by giving us our own indeterminate capacities to create. This is the most dangerous part of creation - man's capacity to create new ideas and meanings.

Thus always a finite being must find some of her creativity in that which has gone before.[217] The irreducible newness that a human being is able to create is always a newness that is partial - a faint reflection of God's ability who is able to create without any external aids whatsoever. This difference is not just a difference in degree. There is an infinite distance between the One who is able to effect the existence of something from absolutely nothing and one who necessarily has to create using the resources that only God can give. God created the pigment, the river, the canvas, that the human artist uses to create. All human creations are, despite Bergson, largely an unfurling of pre-existent elements, a rearrangement of the already present - with that inexplicable difference that gives it its newness. God had no need of any external sources in order to create the canvas and the river and, indeed, the human artist herself. I do not think it coherent to suppose that God gives the human artist the ideas that she employs in her pursuit of the 'original'. This would imply that the human artist copies from a mental representation of a God-given image. But the whole thrust of this thesis has been the

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acting by God in the world. Whether I be a carpenter or a philosopher, I am called by God to create constructively. My creativity can be distorted by sin, but a complete lack of creativity is an expression of the ultimate stifling of man by Original Sin. It is not true, that only ascetics and saints are saved, -- they likewise created, and were artists of human souls. The Apostle Paul in his own spiritual type was to a greater degree by religious genius moreso a creator, than saint."

[217] See Boden 1990 and 1995 for a discussion of human creativity. Boden tries to show how there can be algorithmic paths from the antecedents of creation to that which is created. Obviously I would disagree with this contention.

insistence that there is a world of difference between an idea of a thing[218] - which is indeterminate - and the thing itself - which is determinate. The idea of a person copying from her mind is just as incoherent when we are talking about something new as when we argued against it in previous chapters when talking about the divine mind.

Let us summarise the points we have made: God is the *origin* of meaning and rationality. In that sense He is the inspirational source of all creativity. However, God has created creatures that are capable, in a partial and faint manner, of becoming creators of their own artistic endeavours *ex nihilo*. God has created consciousnesses that can be creative. God has created creatures that are independent of Him and can create from nothing.

Perhaps I can make myself more clear by approaching this from a different angle. Recall that God's creation is grounded in God's capacity to create. He has the power to create things. The things that He creates have, however, no pre-existing instances - as if the divine power to create is to be understood as a realm of pre-existing models which the creative process merely copies. Now it is my contention that God has given to his creatures a similar capacity. We, too, have within us indeterminate but determinable capacities which contain the ground of our creations. These find no pre-existing instances, since, just like God's capacities, they admit of continuum analysis. So we can create from nothing. As I have said, we are not like God in being able to create *wholly* from nothing. We use tradition and the already existing materials around us. Nevertheless, our creations if genuinely new are partially *ex nihilo*. That is to say, genuine new things are not merely composites of what has already been. There is something emergent which was not there before. This emergence finds it ground in the creative capacities that God has given us, which He has allowed us to use freely.

We saw in the last chapter how evil had no divine prelude before creation, so how is it possible for it to emerge if we do not allow some kind of *ex nihilo* creativity as a characteristic of creatures? How else can evil evolve unless this is so? God cannot be the source of evil since He is perfectly good. Only creatures that have a certain creative independence from the divine can create values that deviate from the goodness of God.

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[218] Here the idea is, of course, meant to refer to the idea of a thing as possible. I can have determinate ideas of existing things.

It has always been regarded as a mystery how evil could have come to exist in a perfectly good world created by a perfectly good God. Now the mystery has a location: it is located where finite individuals are given by God their own creative capacities. Milton, in *Paradise Lost*, tells us that Sin was born out of Satan's head as he hatched thoughts of his own pride. God has given us creative indeterminate capacities. We discovered that we could conceive of thoughts, plans and ideals which warp the values that God embodies.

As against this, traditional theology tries to show that true creativity is an exclusive preserve of God. Aquinas, for example, argues that only God may be said to create *ex nihilo*.[219] This is, I think, part of that theology that tries to give as little room as possible for created agents to be independent of the divine. It seems to me that this has the inevitable consequence that God is the source of evil. We need to maintain that human beings are, within the limits of the givenness of the determinacy of the rest of creation, truly creative. Only then have we room for evil to grow out of something other than a divine source.

Why Did God Create the World?

We now turn to look at the notion of free will and the creative act and so try to answer the question as to why God created the world. There have over the ages been many attempts to find an answer to this question. One of the most intractable problems has been reconciling God's creation of the world with God's self-sufficiency. As Norman Kretzmann puts it:

> ...what motivates God to choose not the world consisting solely of himself, the absolutely being, but, instead, a world consisting of the absolutely perfect being accompanied by a universe swarming with countless other beings, none of which - not even any that is perfect of its kind - is or could be absolutely perfect? [1997 p222]

Some have opted to say that somehow God's goodness necessitates the production of other sources of value. This, Kretzmann calls, the Dionysian principle which states

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[219] See *Summa Contra Gentiles* ii, 21 and *Summa Theologiae* I, 45, 3.

"Goodness is by its very nature diffusive of itself and (thereby) of being." [1997 p224].[220] Others have seen the creation of the world as a free act, which was in no way necessary. But then the problem arises again. At least the necessitarian idea gives an answer to the question of why God created the world. It declares that he had to do it. The free will interpretation seems to give us no satisfactory answer to the question. It might try to find some kind of non-necessitating motivation in some aspect of God - say in His love - but it seems to leave His self-sufficiency compromised. Why, if God is perfect and complete in His love, does He choose to create other beings? The answer seems to be that in some way He needs those other beings in order to express His love. This could be seen as merging rather uncomfortably with the Dionysian principle: love by its nature is diffusive and has to express itself towards (and so create) other beings.

Let us turn again to a consideration of Bergson's and Hausman's accounts. We have found that they are similar. Somehow creative action - indeed in Bergson's philosophy all free action - does not fit into any rationalizable category. Hausman calls such action spontaneity. The acceptance of spontaneity is an admission that not all of reality is able to be rationalized. There are inexplicable jumps towards new meaning and new forms. Bergson insists that we cannot see the future as paths towards which our wills are directed. We cannot mathematize the irreducible duration or movement of life into fixed points that can be systemized and scrutinized. God's decision to create the world is, I think, best understood in the same way.

Thus, creative action is of its essence free and thus is not amenable to rationalizing categories. There is, then, no answer to the question of why God created the world if by an answer we want a complete explanation. God's creation of the world was a spontaneous act and as such cannot be rationalized in a complete sense. This is by no means an evasion of the question; instead it points towards the very nature of freedom and creativity itself. The problem is that, despite an acceptance that God's act was free,

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[220] Kretzmann thinks that, despite Aquinas' express disavowal of this kind of idea, his philosophy is committed to the principle [p223-225]. The Dionysian principle, as expressed by Kretzmann, is similar to the 'principle of plentitude'. Taking its inspiration from the *Timaeus* [30c-d, 39e], the principle of plenitude "necessitates production not just of as many beings as possible, but of every kind of being" [Wallis 1972 p65]. The Dionysian principle as it is expressed by Kretzmann does not talk of as many beings as possible coming into existence, so I distinguish it from the principle of plenitude.

we nevertheless want an explanation that shows how the creation of the world was necessary. We want all aspects of the creative act to flow necessarily from a complete explanation of its origins. Anything short of this seems unsatisfactory. We want, in short, to deny God's freedom because freedom is the acceptance of incomplete explanation.[221] That is why necessitarian explanations of the creation of the world are so much more satisfactory. Here we deny freedom, but are given what is apparently a complete explanation. We are told, by such a story of the world's origins, that it flowed out of God by a kind of logical necessity. The very unavoidabilty of the world satisfies our sense of explanatory completeness.[222] When, however, we say the world was created freely we find that the world was avoidable. Why, then, does it exist? The spontaneous nature of creativity allows no complete answer to this question, although we may provide partial, but non-necessitating answers. We may say it was "out of love" (Moltmann). We may say it was out of a continuing desire for newness and freshness and originality (Hartshorne).

Keith Ward in his book *Divine Action* makes many suggestions as to God's reasons for creation that are consonant with the proposals Moltmann and Hartshorne put forward. He suggests four reasons that God may have had for creating a world: (i) "one reason for the creation of a world will be that subjects capable of valuing their own existence come into being, in addition to the infinite subject of God. (ii) "Another reason for the creation of the world is that the sorts of values which can be realized in a world of finite beings will be values that otherwise would not have existed at all." [p24]. (iii) "God himself will experience new sorts of value, as he comes to know as actual those finite values which he chooses to create." [p26]. (iv) "we may see the creation of some world as necessary to God - not that he needs it, but that his essential creativity naturally overflows into a created expression of his unlimited potency" [p32].[223]

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[221] Aquinas wanted to uphold the freedom of God in creation, but since he held that everything about God is necessary it was nigh impossible for him to preserve God's freedom. (See Ward 1982 p77-81.)

[222] Perhaps that is why explanations relying on fate or fatalistic assumptions are so popular.

[223] The first three of Ward's proposed reasons for creation cohere well with the notion that the world is the creation of genuine otherness to which God's loving attention can be directed. I find, however, Ward's proposal that primarily the rationale of creation is the creation of new value an unduly abstract contention. God does not so much create

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In a recent collection of sermons and addresses, Denys Turner finds in the doctrine of creation *ex nihilo* other ideas which suggest reasons for the creation of the world. He argues that the *ex nihilo* character of the world suggests the presuppositionlessness of creation - its giftedness:

> 'Out of nothing'...that is to say, there are no further purposes in creation, no reasons, no ulterior motives, nothing to be gained by it, nothing added by it, no profiteers. If God gives he gives out of sheer goodness, because, in a wonderful image of Meister Eckhart's, the divine goodness seethes and boils into creation as water heated in a pan, out of sheer purposeless delight and enjoyment of goodness itself. And as Thomas Aquinas says: *et ille est maxime liberalis*, he alone is absolutely freehanded, because, he adds, God acts without interest in any good he can do for himself, but out of the sheer joy of so acting - in short, God always acts *ex nihilo*, out of nothing, gratuitously, graciously, for the joy of giving. Therefore, as wisdom says in Proverbs (8.31), she plays with the children of men because it is her delight to do so. [Turner 2002 p32]

We must be clear that these reasons do not necessitate the production of a world - this is particularly clear in Turner's analysis - a *necessitated* gift is hardly a gift at all. As we have said, it is characteristic of explanations involving the notion of freedom that the explanations remain incomplete.[224]

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new values as create new things - on an earthly level, material objects. Some of these things can be 'profound centres' or subjects of self-awareness that can form relationships. Perhaps this could be described as the indirect creation of new values, The notion that God could create new values *per se* seems to be close to his notion that God's imagination in itself can conceive of new determinate possibilities. This we have already found reason to reject. In any case, Ward's emphasis on newness being part of the driving force of creation is a welcome one.

[224] One might argue that any attempt to find any reasons at all for the divine decision to create is misplaced. Arguing along the lines suggested by Turner, one could say that God's decision to create was *entirely* motiveless. To try to give a motive would suggest that God's creation was something less than a kind of inexplicable graceful exuberance. As an act of sheer, presuppositionless grace, it does not arise for any reason at all. Just as I might whistle - not for any reason - but just out of sheer exuberance, so God's creation is His act of reasonless giving. (I am grateful to Mr Nick Denyer of Trinity College, Cambridge for this example [in conversation]) I do not think that the suggestions given above that attempt to give a kind of ground for God's creation undermine this kind of approach. A creation out of love or for the sake of newness does not suggest that God's creation is anything less than a kind of joyful exuberance. God is

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This freedom, spontaneity and consequent explanatory incompleteness can be brought sharply into focus by considering the notion of possibility that has been examined in this thesis. Nothing determinate precedes its existence. God did not actualize a possible world and so did not have before Him a set of possible candidates for existence. What God did have was a set of plans. That *this* specific world exists, then, is a supremely contingent matter. It did not pre-exist as a necessarily possible world. And *God did not choose it* - what He chose was to fulfil certain general plans and ideas. God, in choosing to fulfil these plans, created the world. There is, then, no answer to the question of why this *specific* world exists since God did not choose to actualize it. It was not laid before Him in His mind's eye and He did not decide to copy it out in actuality. However, it is true to say that the *general* character of the world was intended by God since, as I have said, God is able to form plans. These plans presumably are based on the already determinate aspects of the divine nature. God, for example, does not have to wait to see what creation is like before He can recognise rationality or love. Both these are determinate parts of the inter-relationship of the Three Persons of the Trinity. God is also completely cognizant of the entire actuality of mathematics. This also would be a tool in the divine intentions in creation. (As I have said, perhaps this would explain why mathematics seems to be so often the key to unlocking the mysteries of the universe.) The specific character of the world is open to chance - its specifics have not been planned. The general character of the world is planned in as far as it reflects some aspects of the divine nature. However, although God knows rationality and love before creation since they are part of His nature, He could not know what the finite concomitants would be like. The reason behind this is simple - God only knows these as unlimited and infinite. He does not know them as limited and finite. As I have mentioned before, God's knowledge that the universe will fall short of the divine glory is the nearest God can come to knowing what (metaphysical) evil will be like before creation.

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as complete as he could logically be before creation. He does not need to make a world at all. Its creation is an act of reasonless exuberance in that respect. In the same way as one could argue that exuberance or joy is God's non-necessitating reason for creation, so one could argue that joy in newness (for newness' sake) is God's 'motive' in creation.

The difference between divine and human creativity can be expressed in terms of freedom. As I have said, I think there is a sense in which human creation can be expressed in terms of creation out of nothing, but this is severely limited. Hausman, and especially Bergson, exaggerate the extent to which human creation can be radically novel. Human creation relies on much that is outside the artist - the pigment, the canvas, the stones, the words. These external items are, so to speak, the constraints which limit the expression of the artist. Despite the creative arts' attempts to break free of these constraints and experiment with new media, the attempt is doomed to failure precisely because all human creativity is limited by external items over which we have no control.[225] God, however, has no such constraints. His is the creative act which is not limited by mediative materials because he creates wholly out of nothing. Brian Horne expresses this difference well when he says,

> The creation of the world and the building of Grand Central Station both arise out of freedom, but arise quite differently. The creation of the world is the act of absolute freedom; it comes into being out of nothing; it is not the re-ordering of pre-existent material; it is not God wrestling meaning out of recalcitrant nature. There are no constraints upon this act: God expresses nothing but himself for there is nothing else to express. [Horne 1997 p146]

This world's existence, as we have said, is supremely contingent. It did not have to be - its nature could have been radically different in unimaginable ways. Those that limit God to the actualization of possible worlds do not realize that these determinate possibilities constrain God to tread upon certain predetermined paths. But there is no algorithmic path from God to this world. Creation is not an irrational act since God is the source and upholder of rationality, but we must not let our desire for explanatory finality compromise the incredible depth of the divine freedom and His sheer, non-necessitated grace.

It is also important however, to guard against a particular misunderstanding of this notion of divine freedom. Certain Christian existentialist philosophers think that God's

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[225] George Steiner writes about the interplay between human artistic endeavours and the already "'thereness' of things". Art, he says, can be conceived as an angry struggle between newness and the already determinate nature of the world we inhabit. See Steiner 1989 p200-216.

freedom is utterly unconstrained.[226] If this means that God's creative freedom is unconstrained by external things, I would certainly agree, but these philosophers want a more 'expansive' kind of freedom than that. They want God to be free, not only of external constraints, but also of internal ones as well.[227] God, they say, invents Himself in the process of creation. There is no given nature of God that He has to abide by as He creates. God's freedom is absolute since He creates who He is. This kind of thinking which can loosely put under the existentialist slogan of 'existence preceding essence' is something I think we ought to resist. I am arguing that God's creation is *self-sufficient*: God has no need of possible worlds to help Him create. His creative capacity (which contains no determinate items) is enough for God to create novelty out of nothing. But the utter self-sufficiency of God is not the absolute 'existential' freedom of inventing the nature of the divine reality. This seems to me to allow a primordial irrationality as the basis of the divine being. I would say that God is free and unconstrained, but His creation is rational and good - *inevitably* rational and good given what God is like. This inevitability that creation is good is not an external limit on God but merely expressive of His inner nature.[228]

God's freedom does not mean that there was no risk inherent in this notion of creation. As we have seen, in traditional notions of providential creation, God foresees all and chooses between alternative possible worlds. In this kind of model there is no risk (or at most very little risk: see p126), since there are no unknown factors. In the model proposed in this thesis, God ventures into novelty. And novelty cannot be completely foreknown. God, of course, knew the general direction He wanted creation to take, but He could not know in detail what he was making as He chose to fulfil His plans. Artists always take risks. All creation is risky. It is risky because it is impossible to tell what the new thing will look like, what the new thing might mean, what the new thing might do. Vincent Tomas talks about how creative action is not instantaneous, but a process of

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[226] Nicolas Berdyaev proposes this understanding of divine freedom. As God freely creates He creates His own nature. God, he argues, arises out of the Divine Nothing or the *Ungrund*. See Berdyaev 1979 p25-31. See Richardson 1968 p54 and p57-64 for a discussion the Primal Will that lies beyond the Trinity.)

[227] Descartes' Universal Possibilism is an extreme example of this notion of unconstrained freedom.

[228] Keith Ward discusses these 'existential' notion of divine creative freedom and rejects them as incoherent (1996 p171-172). It seems to me that these thinkers can have all the freedom they require if they accept the notion that God's creative capacities are rational (they are not ruleless) but indeterminate.

"development and elaboration" [p9]. The artist has to contend with failure - with crossing out what was there and replacing it with something else. Artistry is not just instantaneous inspiration followed by instantaneous production. It takes time and is a process rather than a momentary event. God, in His conscious critical control over creation, has to contend with the things that go wrong.[229]

There is, also, the complication that God, in His grace, has allowed other centres of consciousness the (partial) ability to create *ex nihilo*. He graciously gave them their own creative capacities. This is the greatest risk of creation. God allows His creatures room to move and to make their own artistic endeavours; many of these endeavours are appalling and ugly and threaten the goodness of creation. Why did God take such a risk? As I have said, all creation is risky because of its very nature it is a venture into the necessarily unknowable. Even if God had not created other centres of creative consciousness, creation would still be a risk since what is created cannot be seen or envisaged. As soon as God decided to explore the indeterminate depths of His own creativity and make something out of nothing, He risked the utter perfection of the universe. Why did God do this? Out of love; out of a desire for freshness and newness; out of pure generosity, out of sheer exuberance, but, as we have seen, no complete answer can be given since it is of the nature of the spontaneity of creative freedom and grace that no absolute rationalization can be given.

Models of Creativity

Perhaps these arguments and suggestions would be clearer if we examine particular models or analogies for creation that use the notion of artistic creation.[230] We may ask of any model we examine whether it is suited to do the work of a Christianity that wants space for the world to be genuinely other than the divine. The model best suited to the Augustinian and Thomist notions of providence is that of worker to tool or machine maker to machine. As we saw, such models left little room for freedom or autonomy in creation. Such is God's absolute control that nothing is left for the agent to choose or for the non-personal to have room for its own meaning. Indeed, it questions whether there are agents or things in the world at all.

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[229] I take the six days of creation as signifying the non-momentary nature of the creative act. The Flood is the notion of conscious critical control.

[230] There is a very good discussion of this kind of analogy in Quick 1938 p34-39.

Keith Ward in *Religion and Creation* has a fascinating section entitled 'Divine Imagination' which might offer some insight into this area. Ward begins by talking of the platonically inspired picture of possibility held by Leibniz, the picture that "there is a fixed set of possible worlds which God surveys in its entirety" [p280]. If we reject this because of an unease about "merely possible X's somehow [existing] to be surveyed", what are we left with? Ward suggests that we might begin from our own experience of the contemplation of possible actions:

> If one begins from human experience, we speak of possible actions in a way that is parasitic upon actual existents. We know what we can do, because we know what we tend to do, and we learn the range and limits of our powers by exercising them. Possibilities are always extrapolations from experienced actualities, which are simply given to us in experience. We extrapolate by imagining things being different, by envisaging what might happen in the future. [1996 p280].

So our contemplation of possibility is based upon our experience of actuality. Without that experience, there is simply nothing to go on; there is no abstract information underived from experience that will guide us in our meditation upon possibility. How does this relate to the divine contemplation of possibility? "We might", suggests Ward,

> envisage an actual divine experience which can function as the basis for a divine extrapolation of different sorts of actualities, different ways of expressing in finite form some image of the fullness of the divine life. There could be an unlimited number of such ways, as the divine mind images its own unlimited fullness in many forms. On such a picture, there is an infinite divine actuality of experience, which humans are wholly unable to envisage. This will contain general or indeterminate archetypes of created being, indivisibly part of the primordial unity of the divine life...On this picture, God does not passively contemplate an array of given possible worlds. Rather, God actively and endlessly imagines possible finite expressions of the infinite divine life. [p280-281].

In this way of thinking of the relation between God and possibility, there is an ongoing, active process of imagining new ways of expressing the fullness of God's own being. Ward is keen to stress that before divine envisagement "particular possibles do not exist, in any real sense." Such an understanding, acknowledges Ward, is similar to Hartshorne's understanding of possibility where there are no eternal objects but "a continuum without definite parts" [p281].

Ward's suggestions are valuable, especially the place he gives to the divine imagination. There is activity on the part of God - instead of receiving information about the realm of the possible, He actively creates it. In this emphasis upon God instead of a co-eternal platonic realm, Ward puts welcome stress upon God and His activity. It would be remiss of me, however, not to point out that Ward and Hartshorne's views, although similar, are not the same. Ward seems to say that when an envisagement of a particular possible is envisaged by God, it has then, by virtue of that envisagement, particularity or specificity. Hartshorne would deny this: he would insist that unless a possible is created in actuality it remains indeterminate. Except by way of creating non-mental objects, that is, the divine giving independence from the divine, the possible has no determinateness. Unless it is given in actuality it remains non-specific. Ward's idea of imaginative envisagement is really a development of the notion of determinate divine ideas, not a rejection of it. Yes, the envisaged mental entities are no longer eternal, but as soon as they have been created by the active process of the divine imagination they are given determinateness. They become determinate parts of God's mental life and the fullness of His being, but this happens before they are given real, non-mental existence. It seems to me that the same arguments we have used to discredit the Leibnizean metaphysic of creation count just as much against Ward's idea of the imaginative creation of divine ideas. What would they be but duplicates of the things in the world we see?

Nevertheless we have an important tool in the exploration of the notion that God's creation of the world is akin to an artist's creation of his work. We can say that an aspect of God's capacity to create is His imaginative creation of indeterminate ideas. These ideas are, as we have been at pains to point out, not things into which God breathes life. They are not objects at all. They are of the nature of continua. This need not be taken as meaning that there is besides God a plenum [see Creel 1986] or separable realm of continua. The notion of a continuum is a description or, rather an exploratory tool in our attempt to describe God's capacity to create. Remember capacities are not well understood under the model that says they are determinate entities waiting to happen. There are no latent things in the realm of the possible. Instead we have God's glorious capacity to give life to that which was not previously there.

Another aspect of the imagination is its active form. R. G. Collingwood points out the active nature of the imagination. When I receive information from my senses there is nothing I can do about its nature, but when I imagine something, I am active. I am in control when I imagine. This control is limited however. It seems that Hume is right when he says that all we can imagine is really re-orderings of those things that are previously given in the senses. God's imagination is an active faculty which does not need the materials out of which we construct our imaginings. It ranges free in its exploration of God's capacity to create.

What, then, is the role of the divine imagination? It is an aspect of God's creative powers - it can be understood as God's exploration of His capacity to create. It would be foolish of me to speculate how this is done - we hardly understand our own imaginations let alone the Imagination of the Divine. Perhaps, as we have said earlier, we could say that God's imagination is His ability to endlessly conceive of new patterns of mathematical complexity. I know that this might give to some the uncomfortable sense of a Great Mathematician, a dry and abstruse deity forever coming up with new equations and solutions. Perhaps that is because so few of us are mathematicians and can appreciate the endless and infinite realm of the mathematical world.

Let us now turn to other artistic models for God's relationship with the world. Arthur Peacocke in his *Theology for a Scientific Age* explores some of them. One of the models he considers is a literary one inspired by Dorothy Sayers. In Sayers' model the world is analogous to a book, God being its author. Peacocke comments on this idea and considers it has the advantages of preserving the idea of a transcendent God since the author is not merely just another one of the characters in the story while it also allows the world or book a certain "freewheeling independence." An author is certainly the creator of the characters - it is her initiative that generated them - but the characters themselves take on a direction and independence of their own. Peacocke explains,

> For as Dorothy Sayers pointed out, the characters created by the author of a novel begin, in her experience, to take on a certain life of their own which reacts upon their author as a constraint upon his development of the plot [1993 p171].

Peacocke goes on from there to discuss another artistic model of creation which he considers even more promisingly rich than the authorship model. In the idea that God is

the composer of the world as musical work we get a model that faithfully mirrors many features of the God-world relationship.[231] First we have the idea of time being an essential feature of musical compositions. Music unfolds in time and so the effect that a note has is a combination of its own identity and the culminative effect of the previous notes. This note, in turn, affects later notes and their identity. Thus the temporal nature of the world is not an accidental feature but an essential component in its unfolding.[232] This idea would particularly suit the Bergsonian contention that life is durational. The second feature that this model mirrors is the unpredictability of the world. Peacocke sees this world as coming from an interplay of chance-like and law-like processes which produce more and more complex forms of being. Music composition is also often chance-like and generative of new hitherto unforeseen sounds.

> God as Creator we might now see as a composer who, beginning with an arrangement of notes in an apparently simple subject, elaborates and expands into a fugue by a variety of devices of fragmentation, augmentation and reassociation; by turning it upside down and back to front; by overlapping these and other variations of it in a range of tonalities; by a profusion of pattern of sequences in time, with always the consequent interplay of sound flowing in an orderly way from the chosen initiating ploy. [Peacocke 1993 p174]

> Each sound of a piece of work contributes towards the whole. The ending of a piece of music may be where the musical work culminates and finds its final consummation, but it would be "nonsense to suggest that the 'meaning' of a musical work was to be found only there." [p175-176].

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[231] Daly in *Creation and Redemption* also considers this model in a discussion of George Tyrrell's sermon 'Divine Fecundity': "Suppose we envisage an organist, not performing a finished piece, but extemporising on a theme. The theme is the given, the principle of continuity and identity, the telos which gives overall coherence together with considerable freedom in the attaining of it. The continuing act of extemporisation is the principle of development, novelty, unpredictability. The organist keeps the theme before her but does not foresee where the extemporising spirit will lead her." [1989 p40] Moltmann, too, considers various models or as he terms them "symbols for the world" in *God in Creation* [see p297-320].

[232] Jeremy Begbie writes extensively on the essentially temporal character of music. He tries to show how music's being in time and, to an extent making time, relates to theological concerns. He conceives of music as a complex "dynamic field" where the composing elements relate to each other temporally in complex waves of tension and resolution. One note is not, therefore, an isolated phenomenon, but relates to what is past and points forward to what is to come. See Begbie 2000 esp Part One.

Let us turn now to an evaluation of these models of creation in the light of some of the insights offered by the Hartshornian model of creation. We have already noted that the Hartshornian metaphysic of possibility gives room for creation or, as we have termed it, allowed a distance, an ontological otherness so that God can indeed have a relationship with something genuinely other than Himself. How do these artistic models of creation fare in giving faithful witness to these ideas?

First it seems that these models preserve the Hartshornian insight that creation is really new. In classical theology, the divine ideas are old; they have always been there for God to contemplate. But creation is radically and thoroughly new. It has never been before in any sense whatsoever. Now an artist always prizes originality. To make a new artistic departure is the stuff of genius. Naturally this artist model of creation has its deficiencies: a human artist, as Anselm argues,[233] can never totally break free from that which has gone before. Indeed the work would not make sense unless there was some tradition from which the original work could take its meaning. A human work of art is always only relatively new since it has this backward-looking aspect. But God is the radical artist *par excellence*. He did not have any source, but His own capacity to create.

A second insight preserved under this understanding of creation is that, indeed, there is genuine separation of the artist from her work. An artist does not just conceive of a work; that is not enough. A work of art must be *made*; it must be made other than its maker. Why is this so? Why is not an artist content with the mental construction of new ideas? Because the concrete actuality of something is able to influence its maker in a way a purely mental, necessarily vague idea is not. As we saw with Sayers, the characters in a novel "react back" upon their author. It is this otherness that allows the possibility of relationship. Now, of course, there is only a limited sense in which it is possible to have a relationship with a work of art. (Those apocryphal(?) Japanese readers who commit suicide for the sake of the characters in a story must have made some kind of error.) We might say that a work of art is only partly real; there is always an element of fiction. But God has made flesh and blood and stone. He has given life to

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[233] *Monologium*, Chapter XI.

something previously non-existent. God can form relationships with His creatures and with the world. No mere human work can do this.[234]

The work of art that God creates is able to give this response or dialogue. As Robert Johann would say, it gives the possibility that in creation there can be I-Thou relationships. In His creation God has made genuine others that have self-awareness. Each one of these profound centres is another identity that is other than the divine. Thus God has an 'outside' to which His loving attention can be directed. The Leibnizean metaphysic of possibility, however, makes it difficult to make sense of an outward looking God.

In the Genesis account God works. This has always been a difficult notion for that type of Christianity for whom God is the imperturbable unmoved mover. The idea of *zimsum*, the creation of a space outside the divine gives sense to the notion that God moves. Thus the activity of God is emphasised: this also is highlighted in the artistic model of creation. An artist exhausts herself in the making of works of art - it is genuine work not passive contemplation. It is a continuous work of creative control, not an instantaneous production. But passive contemplation and instantaneous production is all that we have in those ideas of creation that emphasise the notion of determinate divine ideas. All that God does is actualize a previously given set of determinate characteristics. A God in Hartshorne's metaphysic of possibility has no medium through which the creation can be formed. It all comes from His creativity, the inexhaustible capacity to create that which was not there.

The model that sees the divine creative activity as akin to the extemporisation on a musical theme underlines the essentiality of time in creation. This is the third of the Hartshornian features that are faithfully mirrored by the artistic account of creation. Although we hear accounts to the contrary,[235] time is part of created world. I agree with Swinburne that timelessness is contrary to the Biblical witness and merely a discardable part of Hellenist influence.[236] Why is it that there were millions of years of 'wasteful'

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[234] We might envisage, I suppose, man made entities which are able to be responsive to their makers. I am thinking of artificial intelligence and the possibilities of beings like the android, Data from *Star Trek: The Next Generation*. I have problems with the idea that such entities are possible, but I would not like to be firm one way or the other.
[235] For example, Alan Torrance [1997 p83-103] claims that we are actually at each moment slices of four dimensional worms.

evolution before man came on the scene? Because the existence, although temporary, of the dinosaurs may be a series of notes that contributes towards the extemporised fugue of creation. Daly in his discussion of Tyrrell says,

> The lower has its value in itself. God loves and enjoys it for itself, not for whatever contribution it may be making to 'progress'. The dinosaurs led finally nowhere in the evolutionary scheme of things, but on Tyrrell's principles [of God's infinite fecundity], God enjoyed them and was glorified in their truncated existence on earth. [1989 p38]

Likewise, a part of a musical composition is not just a means to a greater end, as if it should not be valued for what it is. Its contribution to the whole does not devalue its own worth. A patch of colour on a canvas may make a contribution to the whole picture, but it would be a strange critic who pointed out that the yellow considered in itself was entirely worthless and that only Van Gogh's sunflowers were valuable. A good artist tries to make all contribute to the whole; if there were truly a part which was extraneous it would lessen our estimation of its artistic merit. This point suggests that I am implying that in the created world every part is a worthwhile contribution to the whole. This is not what I mean; we only have to consider something like the Holocaust and we can recognize that not all of God's creation makes a contribution. Instead we must surely take into account the appalling destructive capacities of much of creation. God's creation is marred, spoilt, trampled upon - that this is true must, in my view, be taken as axiomatic in any theology. As I have said, God must extemporize within the limits that He has set Himself by the freedom He has bestowed upon creation.[237]

In mentioning the problem of evil, we have I think come across one deficiency of the artistic model of creation. Those who affirm it often seem so taken with the model that they only see what is good in creation; they are, so to speak, carried away with imagining great organists (Daly) or J. S. Bach (Peacocke), that they forget that the creation that was once so good is now terribly changed. To be sure, there is still an unfolding in time of God's great work, but it is subtle and not always easily discerned.

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[236] See Swinburne 1993 (revised edition) p223-229. See also Gunton 2002 for a similar argument. However, see Baillie 1934 p213-228 for an attempt at a reconciliation between the idea of timelessness and duration.

[237] See Begbie 2000 Part Three for a discussion of improvisation in music and how, within various constraints, it engenders freedom.

They, also, ignore that fact that creation is a process of revision and what we have called "conscious critical control". Things go wrong. When the unforeseen novelty of a new thing is seen, it might be that it does not to fit in with the whole and needs to be revised.

Finally I think there is another way in which the artisitic analogy or model reflects God's creative activity. The artist sometimes tries to work out the meaning of the world she lives in; she tries to show what she thinks the world means. But sometimes the artist does not try to mirror the world in this fashion. Not all art is reflectional. There is a way in which art tries to make new meanings; tries to show new ways of understanding. Sometimes the originality of art is such that it gives us fresh insights - insights that were not there before. Naturally for the finite agent such newness of meaning derives from the world that she is in.[238] God, however, I argue creates utterly new meaning, which is not merely interpretational, that does not derive from the previously existent. It is to this idea that we turn in the next chapter.

[238] This accords well with Jeremy Begbie's notion that the artist's work properly conceived is dialogic or interactional. [Begbie 1997 p108-109]

Chapter Eleven

Externalism and the Creation of Meaning

In the last chapter we looked at the idea of creativity, both human and divine. Only God is wholly self-sufficient in the activity of creation. While finite creativity can sometimes be said to be *ex nihilo* this is severely limited. We, as human creators, are tied to already existing determinative things and traditions; we are constrained by mediative materials. God is not. In this chapter, I want to add to our understanding of God's creativity by examining the way in which God can be said to create meaning. Most accounts of God's creative activity concentrate on His creation of what mightly loosely be called 'stuff' whether that stuff be physical (human bodies, stones) or spiritual (souls, angels). That God also creates *meaning* is something that is not often examined. What I want to do in this part of the thesis is show how it may be said that God makes meaning at the same time as He creates the world.

In order to accomplish this task we must explain the notion of externalism. In 1975 Hilary Putnam wrote an article which gave rise to a whole new way of looking at the way in which the mind and the world relate to each other. In 'The Meaning of 'Meaning' Putnam argues that meaning 'ain't in the head'.[239] What Putnam is arguing can be seen most vividly if we briefly examine the opposite view - a view that has held philosophy in its thrall for a long time. This view says that what we mean by words and thoughts is essentially a private matter - something that takes place in the head. Consider Descartes' methodology in the *Meditations*. In successive waves of doubt, he sweeps aside the reports of the senses and perception and even the realms of mathematics and reasoning. Eventually he is left with the one thing that he thinks is immune to doubt - the famous *Cogito*: I think, therefore I am. The picture is of a single mind thinking solitary thoughts. "What then am I?" says Descartes, "A conscious being. What is that? A being that doubts, understands, asserts, denies, is willing, is unwilling; further, that has sense and imagination."[240] What Descartes presupposes here is that what he means by the words he uses is something that he himself could have irrespective of the actual world's existence. Even if there were no external objects such

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[239] See Putnam 1975 p215-271.

[240] *Meditation Two* trans E Anscombe and P Geach.

as stoves or wax it would still make sense to say that there could be thoughts about them because meaning what one does by the ideas one has is essentially a private matter - a matter that takes place inwardly.

It was this view of the relation between the mind and world and meaning that Putnam challenged in his article. In order to make the alternative as vivid as possible he asks us to engage in a thought experiment.[241] Imagine a world just like our world - a Twin Earth. The people on that planet use English just like we do. The only difference is that the liquid stuff that runs along streams and rivers and constitutes the seas differs in its microstructure.[242] On our world what we call water is H_2O. On Twin Earth it is an incredibly complicated structure that is abbreviated as XYZ. In terms of properties, both water and retaw (we spell them differently to avoid confusion) are exactly the same so when the first Earthman visits Twin Earth he understandably thinks that retaw is water. When he washes in it, it has the same cleansing qualities. When he drinks it, it has the same thirst-quenching qualities. Now according to the private theory of meaning that Descartes has, the meaning of water and retaw are identical (just as the meaning of the word 'stove' remains the same whether it is a real thing in the world or just a product of the Evil Demon's machinations). When I think of water I think of something liquid and thirst-quenching and river constituting. Similarly when I think of retaw, the same thoughts come to mind. How water strikes me, what difference it makes to me, what phenomenological qualities it produces in me - this is the meaning of water according to this theory of meaning. This view is often called the Internalist view. It is the *internal* (mental) effects of words that constitute their meanings.

Putnam (and now probably the majority of philosophers of mind and language) strongly disagree with this conception of meaning.[243] They tell a different story of the meaning

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[241] The following thought experiment is not a necessary ingredient in the argument. The argument can be set up in different ways that do not make reference to the kind of science fiction that Putnam employs. See Sterelny 1990 p82-85 for examples.
[242] This would in fact make quite a few differences - in particular, the people inhabiting Twin Earth would not be the same as us. Much of their bodies would be made up of XYZ. For the purposes of this thought experiment, we can ignore this complication.
[243] For strong statements of dissent see Searle 1983 Chapter 8 and Fodor 1987 Chapter 2.

of 'water'. When water was named 'water' the name refers not to the superficial properties of water, but to whatever is the internal essence of water.[244] The meaning of water in this understanding is sensitive to future scientific discoveries about its actual nature. An example will make this clear. The word 'air' has been around for centuries - it was only relatively recently that it was discovered that air is actually a mixture of many different gases. Air, in other words, is not one thing. Now according to Putnam, the word 'air' has always been used to name this mixture of different gases even before it was discovered that air was in fact not one thing but a mixture of things. Thus the sentence "Air is good to breathe" uttered in 200AD has the same meaning as the same sentence uttered in 2001AD even though the denizens of 200 had no idea that air was in fact a chemical mixture. The words we apply to external things track reality - of course, the inhabitants of 200AD had no way of knowing that air was not the thing they conceived it to be. Nevertheless, according to Putnam's theory of meaning, it always referred to the mixture. There is not one thing - a substance called air - to which it could have referred.

This means that when an Earthman visits Twin-Earth and says of the liquid in a river "That's water" he does not speak the truth. When he talks about 'water' he intends to refer to the same stuff that he sees on Earth, but he does not because retaw is not the same stuff despite all appearances. If the Earthman found out that what looked like water was actually retaw, he would realize his mistake. It seems implausible to think that he would continue to insist that water and retaw had the same meaning.[245]

This theory is often called semantic externalism: semantic because it is to do with meaning, externalism because it says that meaning is not something internal to an agent,

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[244] Locke distinguished between nominal and real essence. Nominal essence referred to the superficial qualities or properties of a substance. Lead's nominal essence is 'white heavy metal'. The real essence is its underlying nature, which in Locke's day was usually unknown. Locke argued that meaning depended on nominal essence. Putnam is arguing that it depends upon real essence. See *An Essay Concerning Human Understanding* III, iii, 15 and III, vi,7. See also McCulloch's discussion of Locke's theory of ideas in McCulloch 1995 Chapter 2.

[245] Kripke 1980 distinguishes between reference fixing and essence identifying roles in naming. We might say that qualitative similarity helps to fix reference, but does not identify the essence.

but supervenes[246] upon external worldly facts as well as the internal make up of the agent. If we were to stop here, we would have a substantial thesis in the philosophy of language. But if we extend these thoughts into the philosophy of mind we get a new type of externalism which says that mental states are not just internal states of the agent, but also supervene on states of affair that are outside the head. The mind is not just the brain or the soul, but a product of an agent's internal workings *and* the physical, external environment.[247]

Again it is best to see what that means by comparing it with its rival theory. According to internalist conceptions of mind, psychological or mental states supervene entirely on internal states of the agent. This is perhaps the most intuitively plausible view. It says basically that the mind is in the head - or at least in the body. The mind, we might say,

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[246] 'Supervenience' and its verb 'supervenes' are philosophical terms of art, which are meant to convey the idea of dependence upon without strict identity. Helen of Troy was very beautiful. In what does her beauty consist? It consists in the physical features of her face. Now beauty (as a type) cannot be literally identified with her face since others are beautiful too. But there is no more to Helen's beauty than her physical features. Beauty is, therefore, said to be supervenient upon physical features. This allows beauty to be instantiated in a number of ways (it is multiply realizable), but it does not allow the physical attributes of beauty to hang loose from the notion of beauty. It says that if there were someone with exactly the same features as Helen she would be identically beautiful. So supervenience does not allow physical states of the brain (and, if we are externalists, the *environment* of the agent) to be the same without a corresponding mental sameness, but it does allow mental states to be identical while they have different physical realizations. No mental difference without a physical difference. See Maslin 2001 p164-169 for an introduction to the idea of supervenience. See Kim 1998 Chapter 2 for a more detailed account of the significance of supervenience. For reasons why we might opt for supervenience see Papineau 1990.

[247] Externalism is neutral in respect to the materialist versus dualist debate. Most contemporary philosophers are, however, materialist. They believe that it is the physical state of the brain, the body and the physical environment that jointly make up the mind. We also need a note about terminology: although sometimes interchangeable, there is a difference in emphasis between *anti-individualism* in the philosophy of mind and language and *externalism*. Individualism concentrates its attention on the way that language is social. The meanings of some words seem to depend crucially on the social environment - individualism says we can largely ignore this as we try to explain an agent's state of mind. Anti-individualism says we cannot do this. Externalism says that the *physical* environment (which can include social environment) is important in the classification of mental states. Thus anti-individualism talks about words such as arthritis as opposed to natural kind words such as gold or water. See Burge 1979 for a discussion of individualism.

is self-contained in respect of the world.[248] The internalist thesis can be seen as a constraining principle - it says that only the local and immediate causal influences are relevant in the explanations of behaviour.[249] Let us see if we can unpack these statements by means of an example.

Let us imagine, with Putnam,[250] that an evil scientist has removed your brain when you were born and put it in a vat. Various electrodes and other paraphernalia are connected to your brain which are designed to give you the pleasant illusion of reading this thesis, sitting in your room, tasting good wine, conducting a seminar. You have intentions to do things, you fear, you apprehend, you judge, you will. The scientist has made it such that it gives you the illusion of the real world. Internalism says that the psychological states you would have would be identical to the psychological states you would have in the real world. The scientist can give you genuine fear, genuine grief even if the causes of that fear and that grief are not from the usual sources of these emotions, but instead from a computer running your virtual world. As far as you are concerned the immediate and local causes of your fear and grief are identical to the real thing and it is immediate and local effects that are important according to internalism.

Think back to the Cartesian thought experiment of the Evil Demon, which the Putnam example is a modern reworking of. I would guess that anyone reading that for the first time would reckon it to be a logical possibility that it could happen. One's mental states would be the same mental states even if they were in some sense illusory because what is important is immediate (internal) causes. Robert Wilson quotes some philosophers who try to articulate the central insights of internalism:

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[248] The internalist has to be careful here. He must not make his theory amount to the claim that the mind is a *physically closed* system. He has to allow causal inputs and causal outputs if he is to come up with anything like a plausible theory. Computational theories of mind are a good model here: the mind is seen as self-contained, but not causally closed: "[According to computational theories] the mind is connected to the outside world only via a few discrete channels through which it gets symbolic input or through which it acts via symbolic commands to the motor centres. If so, the mind is like a closed system and psychological kinds are identified by their role within this system." [Sterelny 1990 p82].

[249] The literature on internalism and externalism is immense: for the view of internalism being a constraining thesis in the science of psychology see Fodor 1980 and Wilson 1995 esp p3-6 and 117-135.

[250] See Putnam 1981 Chapter 1.

What is outside a person's mind is irrelevant to psychology. Regardless of how the world is in comparison to how it is represented as being and regardless of how it may change while the person's psychological states remain the same, everything is the same as far as psychology is concerned....What matters is how the subject represents the world, not how the world actually is. [Bach 1982 p123 Quoted by Wilson 1995 p6].

And we have:

In psychology, we are concerned to explain why, given the stimuli at her sense organs, a person evinced certain behaviour. Only something that is entirely supervenient on what is inside her skin - on her intrinsic internal physical states, particularly her brain - could play the required explanatory role between peripheral input and output. Environmental causes of her stimuli and the effects of her behaviour are beside the psychological point. The person and all her physical, even functional duplicates must be psychologically the same, whatever their environments. Mental states must be individuated according to their role within the individual, without regard to their relation to an environment. [Devitt 1990 p377. Quoted by Wilson 1995 p7].

Against this, externalism contends that the physical environment is crucially important for the individuation and identification of psychological states. To give the simplest example: think of the psychological state of knowing something. This depends upon the mind being in a certain cognitive state, but it is also essentially world involving since in order to know something it is necessary that the world be in a certain state. If you know it is raining outside your room, then, the world must be that way. Philosophers say that such states have wide or broad content - internalists, while allowing such an analysis, think that such states would be left out or bracketed off[251] in any proper scientific study of persons. They would say that the notion of belief which they claim has no such world involving status is enough to explain a person's behaviour.[252] Externalists, on the other hand, think that even belief has a kind of world involving status. Their argument for this conclusion is the Twin Earth argument encountered earlier, except that now it applies to the content of the Twin Earthman's beliefs. Colin McGinn articulates the argument succinctly:

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[251] See Braddon-Mitchell and Jackson 1996 p227-235 for how this is done by internalists.

[252] Some philosophers reject the whole notion of belief - it is, they say, part of folk psychology - our pre-scientific attempts to explain the world and human action. W. V. Quine, for example, reckons that meaning and such semantic notions must be eliminated in science. See Miller 1998 Chapter 4 for a discussion of Quine's meaning scepticism.

Consider a pair of subjects whose internal properties are supposed to be the same but whose external environment is different. Now ask whether this is consistent with supposing that the two subjects' mental states are the same. The externalist claims that this is not consistent - the mind varies with variations in the environment. Imagine that the two subjects are surrounded by numerically distinct material objects and natural kinds, to which they refer by their words. Then, despite the identity of their internal constitution, we should say (according to the externalist) that they express different thoughts by their words: their thoughts are *about* different objects and natural kinds....The externalist thus concludes that the contents of mind are not (wholly) determined by what lies inside the subject. When we pull the environment apart from the subject's internal properties we pull his mind with us. Mental facts can vary while internal fact are held constant. [McGinn 1989 p1-2 Emphasis in original]

Externalism claims, then, that we cannot individuate and classify the contents of a person's mental world without looking at the subject's environment. If we do not examine the subject's environment we will not know what his beliefs are about. We will have no way of finding out if his beliefs are about water or retaw. Internally a belief about water and a belief about retaw might be identical in physical constitution. And so (if we are materialists) we might believe that because the internal neuronal structures of the beliefs are identical it follows that the mental states are identical. But the externalist says that such a conclusion is not warranted. We cannot look solely at internal constitution and decide on the basis of that about how a person's mental states are to be individuated. The Twin Earth thought experiment shows that internal states can be identical while mental states are not, for the mental states can be about different things altogether.[253]

McGinn, in *Mental Content*, goes on to examine this claim about individuation in more detail. He outlines a kind of individuation where one class of entities are individuation dependent on another class of entities:[254]

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[253] The externalist view about the content of mind can also be read as part of a rejection of the Cartesian idea of the mind being infallibly transparent to itself. It is not according to externalism. There may be content to your thoughts that you are not aware of. You may think you are thinking about water, but really you are thinking about retaw.

[254] McGinn (p4) cites Strawson 1959 Chapter 1 esp p30ff as the source of this concept of individuation dependence. One of Strawson's examples (p41) is private mental states or, as the terminology of the time called them, sense data. Here the individuation and identification of sense data depend upon the more basic category of person. We individuate sense data, not directly, but through identifying individual persons. We might say that the number of instances of disappointment (a private mental state) is dependent upon the number of people who read this thesis.

> The existence and identity of Fs is dependent on the existence and identity of Gs, though the Fs are not identical with the Gs. Thus whatever it is that individuates Gs is transferred to the individuation of Fs: we have an asymmetrical dependence of individuation conditions. [1989 p4].

The best model for this kind of asymmetrical individuation dependence is the relation between a set and its members: "A set owes its identity to its members: if they vary it varies; if they fail to exist it fails to exist too. Yet a set is not to be literally identified with its members or with the sum of them." [p6]. It is the same with the world and the mind: instead of the world and the mind "sliding smoothly past each other" [p9] they *collide* because they are not metaphysically independent categories. The individuation conditions are asymmetric because the individuation conditions for mental states depend upon external or wordly things, but this dependence is not two-way. The individuation conditions of the world does not depend upon the mind. Thus, as McGinn notes, there is a very strong *realist* strain in the externalist thesis [p10-14]. The real world of water or retaw helps to constitute the contents of mind, but the mind does not help to constitute the contents of the external world.[255] We might contrast this thesis about the dependence conditions of individuation of mind and world with someone like Richard Rorty who basically sees the individuation thesis running from mind to world.[256]

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[255] David Wiggins (1986) suggests a more symmetric picture than this. Things cannot individuate themselves, he says, so there is a mind-dependent aspect to the content of thought (p170). But, on the other hand, the "thought of an object is the thought it is...by virtue of being answerable to that object and the condition of that object." Singling out an object is a two way process from mind to world (individuation) and from world to mind (the character of thought is answerable to the object). Wiggins is a realist - the mind may construe the world but it does not construct it.

[256] For a recent formulation of Rorty's pragmatism see Rorty 1999 esp Part II. Rorty would disagree with my formulation of his thesis since he abjures the traditional polarities of mind and world. As we have seen, however, so does externalism. There is no sharp dividing line between mind and world, but it is still true to say that externalism gives a priority to the world in the individuation of entities, while Rorty emphasizes the mental or at least human interests in the individuation of the world. See p xxvi for a (very) succinct telling of the pragmatist story. Incidentally, it seems to me that the Peircean view about the nature of possibility is akin to Rorty's anti-platonism. Rorty eschews the philosophic presupposition that language describes or gets in touch with a pre-existent mind-independent reality. We just use language in certain ways because we find a set of beliefs expressed by one theory gets what we want better than another way of speaking. There is no Reality out there which language speaks of. It is the same with possibility: there is not anything in possibility that is waiting to be discovered. There is

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Externalism and Divine Ideas

Let us start to relate what we have learned about externalism to different conceptions or understandings of the theory of divine ideas and ultimately of creation itself. The platonic approach, it seems, is an out and out externalist one. The forms are external to the Demiurge and are used by him as models in order to make the world rational: in looking towards eternal and unchanging exemplars of creation, the Demiurge is able to make a world that is rational and good.[257] We might put this into the language of externalism and say that the Demiurge's intentions to create are individuated by the external realm of Platonic forms. Thus the Demiurge's decision to make Socrates is different from his intention to make Bucephalus in that the first is directed towards the form of humanity whereas the second concerns the form of equinity.[258] The rationality of creation is assured because the Demiurge knows what he wants to make by looking *outside* of himself towards the unchanging eternal forms. To put it another way, the Demiurge's beliefs about what he will create supervene on his mind and the external realm of the forms. This means that the Demiurge has not the conceptual resources within himself to create, but needs the external models of the forms.

With this in view, we might want to say that Leibniz is an internalist. For him, God does not look *outside* of Himself in order to make His creative decisions, but looks *internally* towards His understanding in which is contained all the essences of possible things:

> It is true also that in God lies not only the source of the existences, but also that of essences, insofar as they are real, or whatever is real in possibility. This is because God's understanding is the realm of eternal ideas or of the [possible essences <or>] ideas on which they depend. And without him there would be

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> no realm of possibility which our language can describe. Rather what God does is create meaning. He makes meaning in the sense that brand new items come to be which before were not existent in any sense whatsoever. Possibility is not pregnant with meaning. Rather in creating Adam *ex nihilo*, God gives content to thoughts that were previously non-existent. See below.

[257] *Timaeus* 3-4.

[258] There is a difficulty here. The forms are of universals rather than particulars or individuals. There is no form of Socrates. I will ignore this complication. See n106 in chapter 5.

nothing real in possibilities, and not only would nothing existent but even nothing possible. [*Monadology* Section 43 trans N Rescher].

So God does not have to look outside of Himself towards a separate and external realm in order for His creative decisions to be individuated, but has the conceptual resources residing within. There are, within God Himself, complete concepts of possible individuals and it is those that serve the function of individuating God's thoughts about Adam from His thoughts about Eve. Because these conceptions are internal to God, the appellation 'internalist' seem appropriate. However, I am not sure whether this rather 'easy' conclusion is warranted. It seems to me that there is a sense in which Leibniz's philosophy of the Divine ideas can be construed as having an externalist aspect. Let me give some reasons why I think this is so.

First, the ideas or essences that reside in the region of God's understanding are not created by God; rather they are eternal. This is, as we have seen, part of Leibniz's rejection of Descartes' Universal Possibilism. The essences - what Adams calls the "fundamental objects of logic"[259] - do not depend upon the arbitrary will of God, but have always been part of His understanding:

However, we must not imagine, as some do, that the eternal truths, being dependent on God, are arbitrary and depend upon his will as Descartes seems to have held...That is true only of contingent truths, whose principle is fitness or choice of the best. Instead, the necessary truths depend solely on God's understanding, and are its eternal object. [*Monadology*, sec46 Trans N Rescher].

Although, then, the eternal truths are internal in respect of God's understanding, they are external to His will. Indeed, if we apply McGinn's notion of asymmetric identification dependence to the relation between God's will and the eternal truths residing in the Divine understanding, there is even more reason for believing that Leibniz can be read as a type of externalist. Recall that for McGinn, Gs are asymmetrically individuation dependent on Fs if the identity conditions of Gs depend upon the identity conditions of Fs and if Fs are not the same as Gs. This seems to be prima facie true of God's intentions and the region of the eternal essences (which have

[259] R Adams (1994) p178.

their source in the divine understanding). What God's intentions are about - their Intentionality[260] - is directed towards those essences in God's understanding. Thus God's intention to create Adam and His intention to create Eve are individuated by what they are respectively about - what, in other words, their Intentional objects are. But the relation is asymmetric since the identity conditions of the eternal essences is not dependent upon God's will.

This is clearer if we consider one of Leibniz's defences to the charge that his philosophy was committed to the world being necessary rather than contingent. Leibniz's reply to such accusations is that all non-contradictory essences considered *in themselves* or in their own natures are possible. So all possible worlds are indeed possible considered in themselves alone. As long as there is no internal contradiction in an essence - considered in itself (*per se*) - then that essence is possible.[261] It is only when we add the necessity of God's will to create the best possible world, that we must deny that all other possible worlds are possible all things considered. The qualification "all things considered" preserves the possibility of those other worlds. Considered, then, externally to God's will, all non-contradictory collocations of essences are possible. This defence of the contingency of the world must, according to Adams, "be regarded as his principal (and most confident) solution to the problem of contingency."[262]

It must, therefore, follow that the identity conditions of essences are independent of the Divine will. We can look at them in their own nature - apart from a consideration of God's will. This would not be possible if their identity conditions depended on His will.

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[260] I use the word Intentional with a capital and the word intentional with lower case to differentiate between two different words with the same spelling. The word "Intentional" means "being about". Franz Brentano brought this concept to the forefront of the philosophy of mind. Thus my belief that giraffes have long necks is *about* giraffes. My belief has Intentionality - its Intentional object is giraffes. The other word "intentional" (lower case) has the more conventional meaning of "on purpose". See Searle 1983 for an exploration of Intentionality.

[261] R Adams (1994) outlines a narrow or basic view of an essence where we exclude from consideration how the essence relates to other substances (p13-14). If we look at the 'broad' view of essence we must take into account its rejection (or acceptance) by God (another substance, albeit the Supreme Substance) in the creation of the world, which is exactly what this defence of contingency cannot take into account.

[262] R Adams (1994) p12.

We have, then, the picture of the essences which have their source in the understanding, and a will directing its attention towards those independent entities. God's creative intentions do not, therefore, supervene entirely on His will, but also upon the fundamental objects of logic contained within His understanding. To put it another way, change essences and we have a change in what the divine intentions are. Consider the following quotation:

> Now there can be no ground for doubting that God can form such a concept [of a possible Adam] or, rather, he finds it already formed in the region of possibilities, that is to say, in his understanding. [Letter to Arnauld, July 14th Trans G Montgomery]

The phrase "already formed" is Leibniz's way of insisting on the independence of the essences from the Divine will. The Divine will looks towards this logically prior region in order to see what is possible - what candidates for existence there are - but if these candidates are different God's range of choices necessarily change.[263]

There is yet another way of seeing Leibniz as sympathetic to the externalist understanding (despite the apparent internalism of his philosophy). It might seem that the principal motivations behind externalism are the Twin Earth kind of scenarios we have already looked at.[264] It seems to me that actual motivation is often quite different: what externalists want is clear and distinct identity conditions for the semantic contents of mental states. The material objects of the physical world provide the clarity and distinctness that the (subjective) semantic contents of mental states do not seem to have. In other words, material objects have fairly clear individuation conditions - water is water and not some other thing because it is H_2O. Gold is gold and not some other thing

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[263] It is, of course, meant to be logically impossible according to Leibniz's view that any of the essences should be different to how they are. I concede this, but in cases where one is trying to establish the logical architecture of two classes of logical object it is useful to assess our intuitions about counter-logical (rather than counter-factual) matters (especially where the actual logical necessity is not clear-cut). Anyhow, God's will is also meant to be absolutely necessary, but Leibniz still considers what would have happened if God had willed differently.

[264] Twin earth arguments rely on the fallibility of the agent - he does not know the reality of water and retaw, but, nevertheless, the meaning of the words he applies track reality. God is omniscient and so, as McGinn rightly asserts, you cannot "run a twin earth case for God" [p8]. It might, therefore, seem a little bizarre on the face of it to claim a kind of externalist understanding is appropriate for God's mind. Please bear with me.

because it has an atomic number of 79. Meaning, if it identified as what it is subjectively present to the agent, is simply too vague and unscientific a notion.[265] Identifying meaning with objective external items makes things sharper, more in focus. Leibniz would be sympathetic towards this type of motivation. As we have already seen, he reckons God to be incapable of doing anything "indeterminate whatsoever." [Quoted in Woolhouse 1982 p48]. God's decision in creating Adam is not the decision to actualize a indeterminate concept, but to give life to a complete specification of an individual. The essences in the divine understanding are utterly sharp, allowing no indeterminateness.

I think then I have established a kind of externalism in Leibniz's philosophy of God's mind. But how significant is the result? In one way, it is not significant. No one has ever doubted that Leibniz thought that the laws of logic are independent of God's will and, therefore, 'outside' the Divine will. What I think is important, however, is still to be shown and the language of externalism enables me to make the point a lot clearer. Externalism teaches us how the external world impinges upon what we mean by the words we use. The meaning of 'gold' is only precise in as far as the actual non-semantic item is precise. Meaning stands or falls upon the non-semantic items it refers to.[266] But if there is no actual non-semantic real world, how is God able to give meaning to His internal assertions? How is He to direct His intentions determinately when there is nothing to stand as the determinate content of his intentions? Leibniz, as we have seen, believes that the content of God's understanding provides the requisite determinate content for God's Intentional states. *But what if such content could not be found?* What if the Intentional objects of God's understanding were indeterminate? If this were so, then, God's intentions could be nothing but indeterminate as well. In this thesis, I argued precisely that: no determinate objects of understanding could be found. There are no possible worlds to serve as the objects of the divine understanding. So God cannot think of a possible Adam or a possible Eve. They are not there to be thought

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[265] John McDowell (1986) argues that the rejection of the idea of a subjective autonomous realm of inner meaning "liberates us from Cartesian problems" (p146). Descartes' picture where the inner world of the agent is infallibly known and the knowledge of the external world is fallible generates problems about our access to the external world. The problem need not arise if we suppose that the inner mental world and its meaning is constituted by the external world.

[266] Strictly speaking, this is not the whole story. As Hartshorne suggests, the meaning of abstract mathematical truths may be determinate without a physical world.

about even *sub ratione possibilitatis*. This, of course, has strong implications for an externalist conception of meaning. If meaning stands or falls upon the non-mental items that are its referents, then, we can say *meaning is created if new items come into existence*. Before Adam existed there could be no external thing 'Adam' to serve as the meaning-making referent. Once Adam exists, then and only then, does that meaning-making item exist. In creating Adam, God creates meaning.

Now in order to avoid this conclusion and to keep the realm of meaning eternal and unchanging, we might try to argue that meaning for God is purely an internal affair. He looks within Himself at the Divine ideas and these constitute the unchanging source of all meaning outside of Himself. When He creates, He creates duplicates of the things inside His mind and the realm of meaning thus remains unchanged or static. This conception, of course as we have seen in this thesis, has been the predominant conception of the relationship between God and creation. However if in creation genuinely new things come to be then we must say that God also created a whole new range of mental states to which He could have access. Once when Adam existed as a determinate individual God could have thoughts about him. Before then no such thought was logically possible.[267]

The externalist conception of creation implies, then, that God's creation of Adam gave God a whole new range of previously non-existent mental states. I do not think we ought to be too wary of saying that creation changes God; not, of course, His immutable and essential nature, but the content of His thoughts, what His concerns are about. After creation, there are a whole new ranges of things His thoughts can be about. As creation progresses and new things arise then God can think about those things as well. We must not, however, in saying this suppose that God is now accessing thoughts that were previously somehow *hidden* - that at one time God was ignorant of a realm of experience and that at another time He is not. Rather we must say that God is now thinking a thought which has *emerged*. When there is no Adam, there cannot be any thought about him. This 'cannot' is not the cannot of difficulty or unlikelihood, but a

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[267] If we accept the idea of possibility being indeterminate, but want to avoid the notion that God creates without full apprehension of the specific content of creation, the only option seems to be the Ockhamist one where God looks forward to the creatures themselves in his creation of the world. In this scenario, the meaning-making content of creation is determined by the future actuality of the creatures themselves. As we have seen, Ockham's theory cannot work.

logical cannot. It just does not make sense to suppose that in the absolute absence of real things one can nevertheless have access to these. One cannot think very long about that which is nothing. But the amazing miracle of creation *ex nihilo* is that despite nothing existing and there being no thoughts about Adam (or Adam duplicates) in the divine understanding, God is able to create Adam - something absolutely new and without precedent.

I contend, then, that God in creating external determinate objects also creates meaning. When God creates Adam, He creates a new object that can serve as the Intentional object of the divine understanding. He can judge Adam, love Adam, know things about Adam - before Adam existed these mental states could not exist. There was no meaning in the content of the thought, "I know Adam" before Adam existed simply for the very reason that Adam did not exist. The same goes for all the objects of the world. If God's thought about a stone is essentially stone-involving, in the stone's absence, the mental state cannot exist.

I do not, however, believe that all meaning is dependent upon the world's existence - as if *all* was meaningless before creation. Before the existence of the world, God could still have Intentional objects of divine understanding. I have already argued that mathematics and rationality in general precede the existence of the world. Thus God could think mathematical and rational thoughts before the creation of the world. Moreover, I think much *value* precedes the creation of the world. In the divine life of the Trinity, God could know loyalty, love, friendship, faithfulness. These would be parts of the relational life of the Three Persons. So, although, much meaning is created by virtue of the actuality of the world that arises from God's capacity to create, it is not the case that all meaning is created as the world arises. If all meaning arose, we would have to say, along with Berdyaev,[268] that there is a presuppositionless Primal Nothingness out of which God arises. This Primal Nothingness would be the meaningless, presuppositionless ground of the divine being. I have already rejected this view. God does not create God. But, at the same time as rejecting this extreme view, we must accept that not all meaning is eternal. Some meaning is created by God - this makes a difference to God. He can know things that could not have been items of knowledge before they existed. God is expanded, so to speak, by the activity of

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[268] See p193.

creation. His thoughts can cast themselves towards new external objects of understanding. To put the idea in terms amenable to Hartshorne, God *surpasses* Himself in the act of creation. God is always as great as He could possibly be, but He can create new things that can then become items that He can think about, contemplate, love and become actively involved with in relationship.

Such a line of thinking, as I have already argued, preserves the independence of the world from God. Once everything was God - after creation not everything is God. He created entities that have room for themselves to be. They are independent of God - they are durational centres of activity that have their own meaning. This is crucial. If we wish to ensure that God's love is directed, not to aspects of Himself, but to others, we must ensure there are genuine others for His loving attention to be directed towards. These genuine others must be genuine non-divine objects with their own purposes, life and activity.

As I say, all meaning is created by God, but not all meaning is thereby determined by Him. He does not look towards determinate objects in His understanding and then duplicate them. Rather He uses His indeterminate, non-individual capacity to create. The meaning that arises, which can stand as new objects of the divine attention, is wholly dependent for its existence on God. But its nature is its own. It has its own meaning not by virtue of a divine determination that it will have that meaning, but by virtue of the fact that it exists and possesses its own non-divinely determined nature. Its nature arises not by a divine duplication, but is genuinely new - undetermined and independent of the divine. Of course, the world continues to exist and have its meaning because of divine permission. It need not continue to exist. God could annihilate the world simply by an exercise of His omnipotence. The world also needs God's sustaining power in order to continue to exist. In other words, the world has no existential inertia of its own, but it has the divinely given resouces to be the determiner of its own meaning and destiny.[269]

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[269] The idea that God continues to sustain the world by, so to speak, a continuing act of divine effort must be carefully worded if it is not to deprive the world of its independence from the divine. Hume says of Occasionalists and others who want to glorify God's power by allowing the creature none: "They rob nature, and all created beings, of every power, in order to render their dependence on the Deity still more

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To end this chapter let us look briefly at the argument that it contains. Before creation, God could not think about Adam because Adam, the created entity, did not exist. God could not think about Adam as a possible item instead for we have argued such mental ponderings about possibility cannot take place. There were, then, no Adam-thoughts. Given that externalists are right in their contention that the referents of thoughts determine the meaning of thoughts, we can say that there was no meaning in the word 'Adam' previous to his existence. When God created Adam, thoughts about Adam became possible. Then and only then were thoughts about Adam possible. Then and only then did Adam-thoughts become meaningful.

The doctrine of *creatio ex nihilo* is, then, much more wonderful than previous models allow. Tradition has taught us that the stuff of this world came into being from nothing, but that no more meaning came into existence. If this thesis is correct, God in creating the world created new stuff from absolutely nothing, but also in doing so created new items that could serve as the meaning-makers for brand-new thoughts. God is the creator of new meaning *ex nihilo*.

Continued from previous page...

sensible and immediate. They consider not that, by this theory, they diminish, instead of magnifying, the grandeur of those attributes, which they affect so much to celebrate. It argues surely more power in the Deity to delegate a certain power to inferior creatures than to produce every thing by his own immediate volition." *Enquiries* Section VII, Part I, 56.

Conclusion

It is time now to draw together the various strands of this investigation. The impetus for this thesis came from two independent sources - one primarily philosophical, the other primarily theological. The notion of possible worlds is suspect. On the one hand, it has had clear successes in the semantic interpretation of modal logic. If we want modal logic to be about modality, the interpretation relying on possible worlds seems to provide the resources necessary. On the other hand, a commitment to the existence of individual, determinate worlds in either a concrete sense (Lewis) or abstract sense (most varieties of actualism) seems to me extraordinarily counterintuitive. We might accept numbers as abstract entities, but the notion that there is an individual state of affairs answering to the counterfactual 'Socrates being a carpenter' seems wildly implausible. *A fortiori*, the notion that there are whole complexes answering to the description 'possible worlds' seems to be similarly implausible. I am no enemy to abstractness; I am an enemy to the strongly counterintuitive. This is then one of the philosophical motivations behind this thesis: a reluctance to accept that possibility is nameable, that it has referential objects answering to definite descriptions, that it is, in some sense, a collection or set of entities having individuality, but only lacking actualization.

The theological impetus for the thesis comes from a desire to keep the wonder, even perhaps the magic, of God's creation alive. This seemed to me to be falling by the wayside. In books like *God, Freedom and Evil*, authors like Plantinga use possible worlds talk as a way of modelling the processes of creation. But they no longer seem to be talking about creation out of nothing any more - instead, we have creation from a plethora of determinate states of affairs. God, if you like, adds actuality onto one already determinate individual world.[270] God merely copies out what was there before and places it outside of Himself. As I have said before, God becomes the great photocopier, the grand instantiator of the mimetic. I think this model of creation detracts from the glory of the doctrine of *creatio ex nihilo*.

We saw how the determinate picture of possibility drew unhelpful, positively destructive implications for the notions of providence and God's relationship with the

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[270] Indeed, Plantinga says that the word 'actualization' is more accurate than 'creation'. See note 16 on p 39 of Plantinga 1974.

world. If creation is the duplication of divine entities or ideas, then, in loving the world God is loving, what is in essence, a duplication of some part of Himself. Now many writers have *not* deplored this consequence - there is that strand of theology that concentrates so much on giving God the glory, that no other glory is possible except that which is, in essence, God or a duplication of (part of) God. I prefer a God of Glory who is able to make other centres that have their own determinate value, quite apart from how much they copy the divine source. This is the generous God who is so utterly supreme in His own self-sufficiency, that He does not mind if there are other things which are not copies of Himself. I think that this God is nearer the God of the Bible, who gives and gives again and finally dies upon the cross, not for the sake of copies of some aspect of His being, but for genuine others with whom relationship is desired. He dies for our sake, so that we can be redeemed. He dies for our sake, since it seems He has, through no compulsion, but out of sheer exuberant generosity, committed Himself to the world and the people in it. I think it difficult to make sense of these ideas if we commit ourselves to the possible worlds model of creation.

Then there is the problem of evil. The possible worlds picture must, I think, be committed to the notion that evil has always resided as a non-instantiated possibility in God's mind. He has always known evil, contemplated its destructive effects. He has always had the Holocaust and Stalin's Purges residing in His mind in the region of His understanding. This does not seem to me to be the God of eternal bliss, but a deity of endless nightmares. Indeed, if other possibilities are as determinate as the possible worlds notion suggests, there are much darker nightmares lurking in the core of the divine being for all time, or, if you insist, in His timeless contemplations. These darker possibilities would represent the possible worse ways things could have been. All of them are viewed in this conception in one grand timeless vision of terrible awfulness.[271]

For me, evil arises, not from God, but from creation itself. God has bestowed on creation room for it to be itself. He has, to use Bergson's terminology, created other

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[271] We could add that all the much better ways that could have been would be in the divine mind as well. Surely the non-actualization of these worlds would be an eternal source of divine frustration.

centres of durance, which do not flow in emanationist fashion from the core of the divine being. That evil could arise was in no way predictable, unless we accept that God could know evil before it was instantiated from the freedom of creation.[272] We see in the story of Noah that God grieves over the wickedness of men: there is no indication that evil was foreseen or part of the divine plan. Evil seems to be something for which God had no plan.

We looked at the whole notion of creativity - God is working with material which has a life of its own. This is not, of course, the platonic idea of recalcitrant matter, since the material He works with is not eternal. It comes from nothing and consequently did not always exist. But the creation of entities that are 'cut loose' from the divine source is the creation of things that can be other than the divine source. As we have said, they are not copies of the divine. God has created creatures with the capacity to go other ways - some of them are evil ways. Naturally, we are not entirely loose from the divine - it is our source and our origin, but not all of our characteristics are inherited. The creation of indeterminate capacities shows that we can form ideas and values that deviate from the origin of our life, our very rationality. We can create these new things from nothing in our own limited way.

As the Bible teaches, evil accumulates. The evils that one generation performs is visited on the next. We learn from past exemplifications of evil how it is done, how evil is performed. As the generations pass, we learn new ways in which we can deviate from the divine. One generation disobeys and takes the forbidden fruit, the next murders its brother - by the time of Noah God sees "that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually." [Gen 6v5 RSV].

Those artisitic models we explored in chapter ten often propose that God's creation only makes beautiful music, but it seems to me that it is often a cacophony. But such risk is necessary if God is to have genuine others. They must not be determined by a divinely originated providential plan for then they are not other centres at all. They must

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[272] Except, we argued (note 174), in the limited sense that God knew that the creatures He would create would be finite. They would, of necessity, fall short of the divine perfection. In this purely negative sense, He would know metaphysical evil.

be at least in part indeterminate and free to go their own way. Only then can there be responsive and fruitful relationship.

It is time finally to indicate directions I could not follow because of the limitations of space a thesis this size dictates. I am unhappy with my assumption that God's access to the actual world is unproblematic. How does God have knowledge of me typing this thesis for example? I assumed that God just sees me in a fairly straightforward sense. But there are difficulties with this view. It seems wildly anthropomorphic to suppose that God has sense organs. But I want to argue that God's access to the world is not a merely intellectual conception. How do we reconcile God's vision of the world, which I want to say lacks nothing and sees everything completely, with my commitment to concept empiricism, the idea that certain qualities can only be known through the appropriate experience? If God does not see in the same way that I see, then, how is He able to access those contemplations of the world that I have.

There is a related problem. I have said God sees Adam and sees his newness completely and understands it fully. But is this seeing a different exercise to God's contemplation of Eve? If so, it seems we have to divide up the divine conception of the world into different units or blocks. Is this acceptable or do we have to argue with Aquinas that God sees the world in one complete undifferentiated vision? These are difficult problems and, as I say, given space I would have liked to explore them more fully.

Let me sum up with a few choice aphorisms: God made the world out of nothing. He did this out of joy and generosity. He wanted to give to other centres of durance. The world is new, novel and full of serendipity. But not all of it is good. Evil spontaneously arose from the indeterminate capacities of the centres of durance that God created. Creation is amazing, not because God is a good copier, but because creation arose entirely from God's love and power without exemplars and mental mediative material.

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